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LECTURES, MONOGRAPHS AND CASES.

An Address in Commemoration of the Life and Character of the late CHARLES EDWARD ISAACS, M.D., delivered to the Graduates of the Long Island College Hospital, Brooklyn, N. Y., at the Annual Commencement, on the Evening of July 14th, 1862. By JOSEPH C. HUTCHISON, M.D., Professor of Operative Surgery and Surgical Anatomy.

GRADUATES OF THE LONG ISLAND COLLEGE HOSPITAL:

According to an agreeable custom, I welcome you into the ranks of the medical profession—a profession which, by Christian and Pagan, has been esteemed one of the most Godlike of human avocations. Our relation of preceptor and pupil has terminated. Henceforth we are equals—members of the same great fraternity. You go forth honorably enrolled among the graduates of the Long Island College Hospital, carrying with you its broad seal, which, whether at home or abroad, will secure for you all the rights and privileges that attach to any similar institution in the land. Your acquirements have been tested by what may have seemed to you a rigorous and painful ordeal. But it can be scarcely less painful to you than the responsibility which the Council and Faculty feel in declaring to their fellow-citizens your fitness for the duties incident to the profession of your choice. Do not disappoint them.

It is usual, on occasions like the present, to occupy the hour with words of counsel and advice, or in indicating what are the "requisites for success" in the medical profession. I trust I shall be pardoned for digressing from this time-honored custom; for it has been generally observed that few things are so liberally bestowed, or uttered with so little effect, as good advice. I take it for granted, gentlemen, that you are aware of the true character of the profession you have selected as your occupation for life—that you have estimated its responsibilities, and the nature of its duties. I turn to another more agreeable, and I trust more profitable, theme. It was the maxim of Alphonsus of Arragon, that dead counselors are safest; and who does not know that the characters of the wise and good among the departed exert a more potent influence than the most salutary precepts or the most pathetic persuasions of the living, because free from vanity, arrogance, or superciliousness? I propose, therefore, to counsel you through the life and character of one who, by his industry, professional integrity and scientific attainments, had risen to an eminent position in our profession, and yet of whom it may be said, he left not a single enemy. I refer to CHARLES EDWARD ISAACS, M.D., who died in this city on the 16th of June, 1860.

This remarkable man was born at Bedford, Westchester County, N. Y., on the 24th of June, 1811. He was the son of William and Mary Isaacs. His father was a merchant and farmer; Charles was the youngest of the family, which consisted of three sons and one daughter. Almost from infancy he manifested an unusual fondness for books, especially the Bible, from which he frequently quoted passages and parts of chapters, and often discussed the controverted points of faith with his mother. He attended the parish school kept by Mr. Samuel Holmes, where he studied the classics; and at the age of eleven or twelve he could read the Greek Testament with facility. We are told that "he early evinced marked preferences for the natural sciences. The anatomy of insects and the lower animals was carefully studied in a practical way, and he exhibited a peculiar fondness for Botany and Geology. Even at a very early age he was accustomed to saunter in the fields and woods, gathering specimens of all sorts from the animal, vegetable, and mineral kingdoms. This striking peculiarity early indicated his choice of a profession, and his mother wisely allowed him to follow his own inclinations, his father having died when he was but seven years of age."—(*Amer. Med. Times, June, 1860.*) He commenced the study of medicine with the late Dr. Belcher, of New York, who was a relative of the family, and

attended his first course of lectures in the College of Physicians and Surgeons, New York. He subsequently entered the office of Dr. Graves, of New York, who afterwards removed to Baltimore, and was accompanied by his pupil. "He graduated in medicine at the University of Maryland, in 1832; after remaining in Baltimore for a short time, he went to North Carolina. During President Jackson's administration, he received the appointment of surgeon to accompany the Cherokee Indians in their removal beyond the Mississippi. He traveled extensively among the Indian tribes and through the Southern States; he entered the army in 1841; and of fifty candidates who were examined by the Army Board of Surgeons, only six passed, of whom Dr. Isaacs stood *first*. He was first sent to Governor's Island, and from thence, after a few months, was ordered to repair to Fort Kent, on the eastern boundary of Maine. There he remained about two years; and was then ordered to Copper Harbor, Lake Superior, at the time of the excitement relative to the discovery of copper mines in that region."

Dr. Isaacs left this station in June, 1845, and from thence went to Fort Niagara, Youngstown, New York. The following November, being in bad health, he obtained a furlough, and came to the City of New York for professional advice. Before the expiration of his leave of absence he resigned his office, and in connection with Dr. W. H. Van Buren established a private school for medical students in Greene Street. In September, 1847, he returned to Youngstown, and entered into private practice with his friend, Dr. T. G. Catlin. At the end of six months he left to accept the position of Deputy Health Officer on Staten Island; after being there a month he resigned, and returned to Niagara County to resume his practice with Dr. Catlin. In September, 1848, he received the appointment of Demonstrator of Anatomy in the College of Physicians and Surgeons, which he reluctantly accepted at the urgent solicitation of his friends. His unwillingness to accept the position arose from his humble estimate of his ability to discharge the duties which it involved, and for which I may add his friends considered him peculiarly fitted. He retained this place for several years, and afterwards officiated as Demonstrator and Adjunct Professor of Anatomy in the University Medical College. During the intervals of the lecture term he was occasionally employed as surgeon on the European steamers. He was thus enabled to avail himself of the advantages offered by the medical institutions of the Old World, and at the same time to reinvigorate himself for the labors of the winter in his favorite department of anatomy.

During his residence in the City of New York, Dr. Isaacs was not actively engaged in practice. His time was occupied in studying the book of nature, in making investigations into the intricacies of science, and in instructing students, who eagerly sought the varied stores of knowledge which his gifted intellect was ever ready to dispense.

At the urgent solicitation of a few friends, who were actuated by a desire to promote his worldly comforts, Dr. Isaacs took up his residence in Brooklyn, in the spring of 1857. His personal acquaintance with the members of the profession here did not perhaps exceed half a dozen, and the number of his non-professional acquaintances was still more limited. He came reluctantly. He had hitherto failed to succeed in private practice, and he feared that he should have to undergo a prolonged probation before he could secure a competency. His success exceeded the most sanguine anticipations of his friends, and he at once entered upon a large and lucrative practice. You, gentlemen, who are about entering upon the active duties of your profession, perhaps among strangers, will naturally feel an interest in knowing how Dr. Isaacs' pecuniary success was so rapidly accomplished here, after years of stern conflict with opposing and discouraging fate. His personal appearance was by no means attractive or commanding. There was nothing pretentious or adventitious in his character—no pliant, time-serving falseness—nothing that savored in the most distant degree of empiricism. He would have scorned to indulge in the vulgar tricks of the trade, as they are called. Like our Rush, Physic, Nath. Chapman, Bard, Post, Hosack, Francis, and all those whose names are revered in our profession, he said in every action,

“Or grant an honest fame, or grant me none.”

Those who were instrumental in bringing him here, knew that notwithstanding his high reputation, his success in private practice within a *short* time must be through his professional brethren. The question arose, how he could be introduced personally to the physicians of the city at once and in a proper manner? The happy thought occurred to a friend whose name I would not dare mention, to invite him to deliver some lectures on Surgical Anatomy at the Brooklyn City Hospital immediately after he came here. The members of the profession attended in large numbers, for medical lectures were at that time a novelty in Brooklyn, and Dr. Isaacs at once became personally known to them. They took him warmly by the hand, received him into their hearts, and, I say it to their honor, that through their in-

strumentality he was soon inducted into a large practice. Among the many noble deeds of the medical men of Brooklyn, this one will ever stand prominent. Self-interest, envy, jealousy, and all uncharitableness were forgotten, and each seemed to emulate the other in the desire to promote the material interest of one whose exertions had been fettered and clogged by poverty and ill health; whose life had been a constant struggle with adversity.

As an Anatomist, Dr. Isaacs was not excelled in this country. Indeed, I was informed by one of his most intimate and devoted friends, himself a distinguished professor of anatomy, that in this fundamental department of medicine he had no equal in the land. He was not only thoroughly versed in all that relates to special and surgical anatomy, but in the departments of microscopic, pathological, and comparative anatomy, he was an authority. He availed himself of the ample facilities which his position as Demonstrator of Anatomy in the College of Physicians and Surgeons and in the University Medical College afforded, and the opportunities which his medical friends were but too ready to offer, to engage in the most abstruse and original investigations in anatomy, histology, and pathology; and so great was the respect for his opinion upon questions relating to these subjects, that when expressed it was considered conclusive. Dr. Isaacs' monograph on the structure and functions of the kidney, published in the *Transactions of the New York Academy of Medicine*, Vol. I., Part 9, is a monument of patient industry and scientific zeal worthy of imitation. "Entering upon the investigation of this subject," he says, "without any preconceived theory, it has occupied much of my attention for some years past, and for the last twelve months I have labored upon the subject almost daily, sparing neither time, trouble, nor expense, and carefully guarding against arriving at any conclusion until after long-continued and repeated examinations. The facts from which deductions have been drawn have all been obtained by the careful examination of the kidney in many animals, and especially in the frog, turtle, snake, alligator, fish, bird, mouse, rat, squirrel, cat, dog, raccoon, rabbit, hog, sheep, deer, elk, moose, ox, horse, black bear, rhinoceros, monkey, and in man." This paper attracted considerable attention in this country and abroad. It was translated and republished in the medical journals of France and Germany, and was pronounced by the ablest living microscopical anatomist, Ch. Robin, of Paris, "the most valuable contribution to structural anatomy that has been made for many years." It would be inappropriate on this occasion to refer to the original facts presented in this celebrated pa-

per. They have already been incorporated into some of your textbooks, and have become the common property of the profession.

His paper "On the Extent of the Pleura above the Clavicle," read before the New York Academy of Medicine, April, 1857, contains the result of a series of carefully conducted and laborious researches into the relative position of the pleura to the clavicle. By these investigations he settled an important anatomical fact: that the pleura extends above the clavicle to a much greater height than had been previously supposed by the best anatomical authorities. This paper is one of great importance to the physician, the surgeon, and the medical jurist, and adds new lustre to the name of Isaacs as a contributor to the advancement of his profession, and as a benefactor to his race. Another anatomical fact to which he first directed attention was, that the recto-vesical *cul-de-sac* extends downwards much nearer to the base of the prostate gland in the negro than in the white subject, and that it receded from the prostate in a regular ratio as the admixture of white blood with the negro increased. The value of this observation will be appreciated by *you*, gentlemen, and its important practical bearings duly estimated by those of you especially who come from the South.

It were not surprising that Isaacs, like Morgagni, Vesalius, Hunter, Godman, Physic, and Horner, should have been an enthusiast in that department of our profession in which he was consummately skilled, the structure of the human body; nor that he should have constantly urged upon the attention of his pupils the importance of a knowledge of anatomy; not the names, or general forms, but the intimate structure, the connections and sympathies in the normal forms and functions, and the more frequent diseased conditions of the various organs and tissues of the body. The men whose names have survived, or are likely to survive, their natural lives, have been true to their professional studies, and enthusiasts in their art.

As a Surgeon, Dr. Isaacs occupied a prominent position, and his reputation was rapidly increasing. His profound knowledge of anatomy and surgical pathology, his skill in diagnosis, his clear and comprehensive judgment, and his undaunted moral courage, all combined to fit him for the responsible duties of a surgeon. He possessed a thoughtful, contemplative and conservative cast of mind, which induced him to deliberate carefully upon all the circumstances of his cases; and having satisfied himself what course was best for his patient, he honestly and fearlessly pursued it, never shrinking from the performance of the most hazardous operation when the welfare of his

patient demanded it; nor yet was he tempted by the vain and dangerous passion for applause, the ephemeral *éclat* which a formidable operation sometimes brings, to waver between duty and expediency. He was not what is sometimes called a brilliant operator. Calm, collected, and cautious, his incisions were made with accuracy and deliberation, with no desire to excite the plaudits of his spectators, or to charm them into an opinion of his superior skill by dangerous and rapid manipulations. John Bell has well remarked: "This passion for applause, so natural to us, so subservient to our interests, so flattering to our self-love, so apt to be excited by the presence of strangers who are never to see us again, and are to judge of us by one single act of skill and courage—this selfish and dangerous passion, which every ingenuous man must confess he feels lurking within his own breast, cannot be guarded against too much! If it is ever to be extinguished, it must be by a thorough study of the principles of the science, for a perfect education will carry a man's thoughts beyond this poor ambition. A man perfectly educated, who is accustomed with dissection, and has fairly cultivated his natural powers, is occupied with higher thoughts. He looks inward for approbation, and cares not for the ignorant applause of those who estimate his talents by the rapidity of his strokes—by the movements of a stop-watch. * * * He affects no masterly turns of his knife or hand, no rapidity of execution, no airs of self-approbation to extort applause; but performs his operation in that calm, solemn and impressive manner, which persuades his patient most eloquently of his deep regard. * * * If he operates with confidence, it is not of that rash and headlong nature which arises from a vain assumption of natural abilities, of native courage, of address and dexterity inherited from his birth, but such as proceeds from a rational and modest study of that knowledge which is essential to success."

As a Medical Practitioner, he was remarkable for his judgment in the selection and application of remedial agents, and for boldness and decision when circumstances demanded it. He possessed a memory remarkably retentive of facts which he had observed or learned from others, and had thus acquired a fertility of expedients such as I have rarely known in any one. With a due regard for the *vis medicatrix naturæ*, his therapeutic resources sometimes seemed almost illimitable; and those of us who were accustomed to hear him detail his cases, were often amused as well as instructed by his enumeration of the variety of remedial agents he successively resorted to in treating his obstinate chronic cases. In such cases especially his perseverance

when others would have been discouraged, and his fertility in applying remedies, sometimes bold and often novel and striking, were conspicuously shown. Without being captivated by visionary theories, or heedlessly adopting new modes of practice of questionable utility, he was always among the first to make himself practically acquainted by cautious experiments with the reputed powers of such new articles of the *materia medica* and novel therapeutic suggestions as were recommended by reliable authorities. In all the departments of medicine, the elementary as well as the practical, he was remarkably well informed. In the discussions in our medical associations he was made almost the final umpire, whenever questions involving recondite and abstruse investigations were considered. He expressed his opinions with modesty and a degree of diffidence almost amounting to reluctance, even upon subjects on which he was universally regarded as an authority.

The estimate in which he was held as a practitioner of medicine and surgery was exhibited by the extent to which his medical brethren availed themselves of his services as a medical counselor. No one among us was called so frequently as a consulting physician, not by the tyro alone, but also by those of mature years, ripe experience, and rare professional skill. He was scrupulously correct in all that related to the ethics of the profession, and his intercourse with his professional brethren was marked by great suavity of manner. When called to consult with other practitioners, however humble or exalted their positions, his conduct was such as to secure their confidence and affection. There was no assumption of superiority, no attempt at dictation, nothing in his manner that could excite jealousy; but on the contrary, he manifested the most delicate regard for their opinions and professional rights, and was careful to avoid doing anything that would prejudice them in the estimation of their patients. He was ever ready to assist his fellow-practitioners by his advice and experience, whether the information desired had special relation to themselves or those under their charge; and whenever he had it in his power to render a service to a member of the profession by a word of commendation, it was cheerfully bestowed.

As a Lecturer, Dr. Isaacs was simple, natural, and unaffected; his delivery was not impassioned; he wanted more energy and vigor in his voice and composition; he aimed not at the graces and elegancies of diction, or soared into the regions of theory or fancy, yet his lectures were always interesting, abounding in stores of facts and cases, and enriched by illustrations drawn from his own experience and ob-

servation. He possessed the happy faculty of enlivening the tedium of dry matter by some stroke of wit, a happy pun, an anecdote or quotation. His lectures upon anatomy were remarkably perspicuous and accurate; indeed, we have never listened to any teacher of anatomy whose demonstrations were so clear and impressive. So skillful and dextrous was he in performing dissections, that he often made them in the presence of his class, demonstrating, while lecturing, the different structures in succession as they were unfolded by the knife.

Dr. Isaacs fully appreciated the benefits and importance of Medical Societies, and participated largely in their proceedings. He was an active member of the Medical Society of this County, whose records abound in the results of his experience, and at the time of his death was one of its Censors. He was one of the founders of the New York Pathological Society, and contributed largely to elevate it to its present high position. In this Society he held successively the offices of President and Vice-President. Of the New York Academy of Medicine he was a zealous member; was at one time one of its Vice-Presidents, and no papers that have ever emanated from that learned body have contributed more to give it its wide-spread scientific reputation than those which he presented. He felt a deep interest in the elevation of the profession. To this end, he strongly urged the importance of elevating the standard, both of preliminary education and of the professional attainments required of candidates for graduation.

Thus far I have considered the character of Dr. Isaacs in its professional aspect; but I should do injustice to his memory did I not refer to the brilliant qualities of his heart, which so endeared him to all who were admitted into the favored precincts of his private friendship. He was my friend; but I utter not the language of friendship when I speak his praise. It is difficult to particularize excellencies in a life and character so rich in all that was noble and beautiful in human nature. He was a man without guile, affable and accessible to all; the native simplicity of his manners and his gentle feelings excited profound respect and conciliated universal esteem. He was never provoked to use a harsh expression under the most trying circumstances. He had it not in his heart to do so. An annoying circumstance which would cause others to manifest undue excitement, would call forth from him a playful, ironical remark, and then be dismissed from his thoughts. And yet his soft and gentle nature never subjected him to the imputation of weakness; in mind and eye he was every inch a man. "Experience demonstrates," says Dr. Gregory, "that a gentle and humane temper, far from being inconsistent with

vigor of mind, is its usual attendant; and that rough and blustering manners generally accompany a weak understanding and mean soul; and are indeed frequently affected by men void of magnanimity and personal courage, in order to conceal their natural defects."

He was in a striking degree unpretending and modest. These characteristics gave him a great repugnance to being brought before the non-professional public under any circumstances. When urged to make the microscopic examinations in the celebrated Burdell murder case, the darkest crime that has marred the calendar of the criminal courts of this country, he unhesitatingly declined, notwithstanding the prospect of a large fee, because, as he subsequently stated to a friend, he did not want his name paraded in the newspapers or bandied in the courts of justice. His modesty made him reluctant to promulgate his opinions, or to insist upon their correctness or importance when they conflicted with the opinions of others. And yet to those who enjoyed his friendship, the correctness of his sentiments and internal convictions, and his discriminating knowledge of men and things, were too conspicuous not to be appreciated. Selfishness and personal ambition was not a part of his nature. This was evinced by the moderate competence with which he always contented himself. His utter disregard of his pecuniary interests is not to be commended; for it often deprived him of the comforts, and even the necessities, of life. While acting as Demonstrator of Anatomy in New York, he often had chronic cases requiring careful investigation placed under his charge by his professional brethren, which he frequently turned over to others whom he considered more competent to treat them than himself, often against the protestations of the patient. This was at a time when his annual income was less than a thousand dollars. He had not time to make money. He was at this time wholly occupied in making investigations into the most interesting and secret departments of our science, and he pursued them with a steadfastness of purpose and industry rarely equaled.

He was eminently benevolent in his feelings, and exhibited a warm and generous sympathy for the afflicted and suffering, which at once engaged their affections and confidence. This is, in many cases, of the utmost consequence to the recovery of the patient. He had a rare fund of humor and ready wit, which, with anecdote, happily told, was judiciously used in the sick-room. His patients loved him as a personal friend. I have been surprised since his death to discover the sincere affection which was entertained for him by *all*—the poor and humble as well as the rich and influential, who enjoyed the benefits

of his professional skill. Few persons possessed in so large a degree what Shakspeare so emphatically calls "the milk of human kindness." When he had a suspicion that his patients were poor, he would, by the most delicate means in his power, and in a manner least offensive to their feelings, endeavor to avoid receiving compensation for his services, without leaving behind a sense of obligation. As an illustration of this noble trait of his character, I trust I shall be pardoned for introducing here, even at the expense of brevity, a copy of a letter which has fallen into my hands since his death.

BROOKLYN, *March 12th*, 1860.

Dear Miss H—I have just read your letter containing a draft for \$100, for which please accept my thanks. You remember some months ago I told you that I would never render you a bill for medical attendance on your father; on the contrary, that you were a thousand times welcome to anything which I had done for him, and that I only regretted that it had not been in my power to have done more. I have now hesitated whether I should accept your kind present, but as you state you can send it without the slightest inconvenience, I have concluded to do so, more especially as otherwise you might perhaps (although wrongly) feel under too much of an obligation. I shall, however, devote at least the greater portion of this sum to the relief of those whom we so often meet with, who are oppressed both by poverty and disease. I beg leave, in conclusion, not only to return my sincere thanks for your very excellent present, but also for the kind expression of feeling which my poor services have elicited. I hope you will always remember that I feel a deep interest in your welfare, and that, with the highest regard and esteem, I remain most truly your sincere friend,

C. E. ISAACS.

May I not ask, in the language of Voltaire, "Is there anything in the world more estimable than a physician, who, having in his youth studied nature, and known the springs of the human body, the ills which torment it, the remedies which may relieve them, modestly practices his art; takes equal care of rich and poor; receives his fees reluctantly, and employs them in succoring the indigent?" Do not infer, gentlemen, that I have alluded to the benevolent principles of Dr. Isaacs because they are rarely met with in our profession. No, no; the exercise of the healing art by a man of noble mind makes "man approach nearer to the gods," for "of the Most High cometh healing." "I believe," says Dr. Johnson, "every man has found in physicians great liberality and dignity of sentiment, very prompt effu-

sion of beneficence, and willingness to exert a lucrative art when there is no hope of lucre." And who that is familiar with the biographies of physicians, from Hippocrates to those of our own time, cannot attest the justness of the compliment enunciated by the great moralist?

While he fully accepted the maxim of the great Boerhaave, that "the poor are the best customers, because God will be the paymaster," with those who were able to pay a pecuniary compensation for his services he deemed it a point of honor to adhere to the rules adopted by the Medical Society of the County of Kings relative to pecuniary acknowledgments, with as much uniformity as varying circumstances would admit. It was not the love of money, but "a strict sense of justice and honor towards each fellow-member of the profession, which prevented him from undervaluing his services by charging beneath the customary rate, with a view to draw patronage by exciting comparisons." He acted on the principle that "a practitioner may settle his demands with his patrons on whatever terms he pleases, but he has no right to make the law, or change any established usage to the prejudice of his brethren. The reputation of a *cheap doctor*, after all, is neither dignified nor enviable."

Dr. Isaacs was eminently social in his feelings. There was a peculiar charm about his character, which drew around him admiring and steadfast friends, and made him the delight of the social circle. With a genial nature he united wit; a jocose disposition, "for many a joke had he," and a rich and varied fund of anecdote, which made him a most agreeable companion. But never did he permit the society of his friends or the festive board to detain him from the couch of sickness, when he should be there. The faithful discharge of the duties of his profession was a part of his religion, and paramount to all other considerations.

His literary acquirements were of a high order. He possessed a knowledge of the Latin and Greek languages, which unlocked to him the rich stores of information contained in the classical writings of the Grecian and Roman fathers, and he read them in the languages in which they were originally conveyed. He read and spoke the German and French languages fluently, was familiar with most of the standard works in history, romance, and poetry, and sometimes wrote verses of no mean pretensions. Bunyan's *Pilgrim's Progress*, Shakespeare, Burton's *Anatomy of Melancholy*, and the Bible were favorite books, and he knew them almost by heart. This taste for literature served to keep his mental faculties in wholesome exercise, by re-

lieving him from the tedium of professional studies, and in enabling him

“To respite his day-labor with repast.”

Well has it been said, “that literature and science, far from injuring society, are the great instruments of ultimate refinement and exaltation, and should be universally cultivated. They lift the mind above ordinary life, give it respite from depressing cares, and awaken the consciousness of its efficacy with what is pure and noble. In their legitimate and highest efforts, they have the same tendency and aim with Christianity—that is, to *spiritualize* our nature. They carry the mind above and beyond the beaten, dusty, weary walks of ordinary life; they lift it into a purer element, and breathe into it a more profound and generous emotion. They reveal to us the loveliness of Nature, bring back the freshness of early feelings, revive the relish of simple pleasures, keep unquenched the enthusiasm which warmed the spring-time of our being, refine youthful love, strengthen our interest in human nature, expand our sympathies over all classes of society, knit us by new ties with universal being, and, through the brightness of their prophetic visions, help faith to lay hold on the future life.”

Dr. Isaacs never made a public profession of religion. But if Christianity consists in a just conformity of our actions to the relations in which we stand to the Supreme Being and to our fellow-creatures, few persons were, or endeavored to be more diligent in the discharge of its essential duties. In his latter days, he expressed a cheerful confidence in the providence, grace, and promises of God; and when the love of life ceased to be an active principle, he rejoiced in a pious trust and humble hope of mercy at the Throne of Grace. He remarked to a medical friend, “I am not anxious to live, but I would like to do some good to my fellow-men. God’s will be done! He is good, and more *wonderful* than all we have learned here!”

I have thus endeavored, gentlemen, in a plain, unvarnished, but imperfect manner, to present the lights and shades of the character of our departed friend; it needs no rhetorical embellishments. It is an observation of the younger Pliny, in his epistle to his friend Tacitus, that history ought never to magnify matters of fact, because worthy actions require nothing but the truth. This rule I promised myself to observe at the outset, that the hand of partiality might not color his excellencies with too much warmth. What failings he had may be forgiven for the sake of his virtues. “His defects were spots on the sun.” I present as an example worthy of your imitation his

love for the profession; his keen relish for its studies, and high estimate of its character; his habits of industry; his steadfastness of purpose; his kind affections, and the goodness of his heart. I know not that I could have placed before you a more encouraging example of what devotion to scientific pursuits, under the most adverse circumstances, is capable of accomplishing. Do you sit down in despair and tell me "that you are less gifted, and it is useless for you to exert yourselves in competition with such a man?" Had *John Hunter*, when a cabinet-maker; had *Charles Bell*, when a watchmaker; had *Dupuytren*, when an apothecary's assistant in the army; had *Velpeau*, when a working blacksmith; had our late lamented *Francis*, when a printer's boy, thus thought, think you they would have so distinguished themselves, not only in our own science, but in almost every department of literature and art? *Labor omnia vincit*. Science will claim from you more than a mere enjoyment of the treasures which belong to her temple; she will demand that you also shall bring gifts to her altars. Go forth, then, aiming at knowledge deep and varied; cherish sentiments of the largest and loftiest liberality, for the character of the age demands it. Take with you the blessings of those whose delightful duty it has been to instruct you. May your return to your homes—to those who are anxiously waiting to clasp you to their bosoms—be safe and joyous. May no domestic affliction intervene to mar the felicity of that reunion; and may your many privileges fill you with gratitude to your God, and stimulate your devotion to the thrice sacred cause of science.

FAREWELL !

Camp Disease. Observations in the Field, near Corinth, Mississippi.
By ALONZO J. PHELPS, Brigade-Surgeon U. S. Volunteers.

In anticipation of a severe battle before Corinth, general field hospitals were established in the rear of each *corps d'armée*, as grand depots for the wounded, where they might immediately receive the treatment necessary to their injuries, and obviate the necessity of a painful transportation to the river. But on the retreat of the enemy, and when orders were issued for our army to move on, these hospitals were filled with the sick from the various camp and division hospitals. No better opportunity than this could have been afforded for a study of the diseases prevalent in the army here. In this hospital alone, there were registered seventeen hundred patients. All of these cases presented the same type of disease, but variously expressed un-

der the terms of *Febris Typhoides*, *Diarrhœa*, *Dysentery*, *Scorbutus*, and *Debilitas*.

Subsequent observation demonstrated the artificial character of this classification, and that the disease acquired its name from the most prominent symptoms present, and not in accordance with reliable pathological conditions. It could not easily have been otherwise, as all surgeons will testify who have found upon their register in the course of a few weeks the same person under treatment for dysentery, diarrhœa, and febris typhoides; the same attack acquiring a new name, in accordance with the development of new symptoms, or the absence of others. In fact, there has been so great a variety in the manifestation of these diseases, seldom ever running a regular course, but alternating one with the other, and exhibiting so many symptoms in common, that the nomenclature could not have been otherwise than very confused.

The case was termed *dysentery* or *diarrhœa*, in accordance with the presence or absence of tormina, tenesmus, and bloody evacuations. But there was seldom that amount of local pain and constitutional disturbance in cases exhibiting bloody evacuations to indicate the presence of active inflammation and ulcerations in the colon; and bloody dejections were frequently observed, unattended by tormina and tenesmus. When they occurred, they were more the result of a hæmorrhagic diathesis, than from any perceptible organic change. In all the autopsies made, the large intestine was singularly free from ulcerations; but the mucous membrane of the ileum invariably exhibited a softened condition, and was easily removed with the back of the scalpel. The same condition also existed in the colon occasionally. In no case was there discovered well-defined ulcerations; but in a few instances, the mucous coat was found absent in patches, and conveyed the impression that it had been merely abraded, rather than a result of an ulcerative process.

The fever present was decidedly of the adynamic type, and in the absence of a better term, was usually registered as *Febris Typhoides*. But this fever differed essentially from the true typhoid or enteric fever in several particulars. There was no tympanitis, no rose-colored eruption, and no dothin-enteritis. The visceral complications were trifling. In no case was there observed any disposition to a disorganization of the parenchymatous organs. There was a great tendency to serous effusions, especially in the pericardium. The brain appeared healthy. Death resulted from asthenia.

Parotid abscesses frequently were developed in the course of the

fever. They usually appeared in the lowest stage; but when they appeared earlier in the fever, the system rapidly failed, and death ensued in a majority of the cases. When life was prolonged, the entire gland suppurated, leaving the whole parotid region cavernous.

Scorbutus was applied to those cases where more of the distinctive marks of scurvy were present, such as spongy gums, large and flabby tongue, feeble pulse, dusky complexion, and petechias. This disease very seldom developed itself in its worst forms.

Debilitas was a general term, and of very uncertain application. Sometimes it indicated convalescence; sometimes it was applied to that adynamic condition of the system that resulted from the continued operation of the depressing influences of the past severe winter and spring campaign. In these cases there is no fever, and but little if any diarrhoea, but simply a "weakness," attended with emaciation and loathing of the army ration. Occasionally they terminated very suddenly fatal, when no cause, *post-mortem*, could be discovered, save fibrinous coagula in the cavity of the heart, or, as Virchow has it—*thrombosis*.

These coagula were observed in nearly all the cases of sudden death, and in 33 per cent. of all the autopsies made. They were firm, and weighed from one and a half drachms to seven drachms. They were found more often in the right ventricle, generally in both; generally attached to the *corda tendinea*, but sometimes entirely loose. The largest thrombus discovered was in the case of a patient who was admitted on the 28th day of May, 1862, with "*Febris Typhoides*." At the end of twelve days his symptoms were entirely relieved, and he bid fair for a speedy recovery. He remained in this condition without apparent disease, nourished and stimulated with care, until death came like a gentle sleep on the 22d day of June.

The heart was found in all cases pale and flabby, and the blood was very fluid.

The gall-bladder was usually found full of dark-colored bile. In several instances it was very much distended, and yet there did not exist any icteroid symptoms, nor any apparent deficiency of bile in the evacuations.

Several instances of intussusception were found, in one of which there were six invaginations observed, ranging from one inch to four inches in extent. The feces had been passed regularly, and without any symptoms of obstruction.

The deductions from the foregoing observations are—that the causes of all these affections were essentially of a debilitating kind,

and, in the main, may be enumerated as the long-continued exposure to cold and wet during the winter and spring, the hot sun during the day, and cold nights of the later months, excessive labor, loss of rest, and imperfect diet; that, possessing so many elements of similarity, they owed their variety to some accidental circumstance either in the constitution of the individual, or in the mode of application of the causes; and that no classification of them could be made having for its basis the presence or absence of morbid lesions that could be determined before death. It would seem that the combined operation of all the above causes generated a general morbid condition or dyscrasia which constituted the true disease, whilst the pathological conditions that resulted were not idiopathic, active, direct, but secondary effects, and indicated merely a process of degeneration. Accordingly, the *treatment* consisted in *rest and nutrition*. Stimulants were used freely. When the tongue was dry and fissured, chief reliance was reposed in the turpentine. Quinine was used as a tonic and sedative. In the cases complicated with parotid abscess, the following prescription seemed to act well:

R.—Sulph. quin.,	-	-	-	-	3ss.
Chlorate potash,	-	-	-	-	5i.
Tinc. ferri muriatici	-	-	-	-	f3j.
Aq.,	-	-	-	-	5iv.

M.—Table-spoonful every four hours.

—General Field Hospital for Army of the Ohio, July 3d, 1862.

Epilepsy. (After the French of Herpin.) By EDWARD SUTTON SMITH, M.D. Article II. (Continued from page 31.)

Interval Between Attacks.—When one does not follow step by step the succession of epileptic attacks, they will be struck by their apparent irregularity; but if a certain lapse of time be considered as comprising a great number of acces, and this time is divided into equal periods; or, which amounts to the same thing, if you will take in fractions the daily minimum of the acces during irregular periods—for instance, during such and such treatment—it will be found that the return of the attacks is conformable, at least during a certain time, to a kind of regular law that was not at first suspected.

When we examine with attention a long series of the dates of acces, and keep account of the order by paroxysms when they occur, the intervention of certain accidental attacks, or the non-arrival of

the ordinary return, we shall arrive at the conclusion that, though without the regularity of intermittent fevers, the crises of epilepsy are much less abnormal in their appearance than has been generally supposed, and that they are really regular, which distinguishes them from all other nervous crises.

In incurable cases, sooner or later the return of the acces is manifested by an acceleration, which is a bad sign. This gradual acceleration, generally slow, though sometimes rapid, is the indication of the course of the disease.

I have encountered all degrees of frequency; from more than one hundred a day, down to a single attack every four or five years. The most numerous category is that where patients have had from one to six attacks a week. In hospitals, in consequence of there being no infants, monthly attacks are usually those which are reported.

Acces return and follow two distinct courses: either by isolated acces, or by paroxysms; sometimes these two kinds combine, and at other times change from one to the other. The first course is three times as frequent as the latter.

Generally, the paroxysms come on about every month, lasting from one to three days, and are composed of from one to six acces.

Accidental or very intense paroxysms sometimes cause death.

Diurnal acces are sometimes as frequent as nocturnal, if we take for a day the time that elapses between the rising and retiring of the patient.

The lighter the crises are, the more apt they will be to appear during the day.

Nocturnal attacks are generally more intense, and indicate a higher degree of the malady.

In general, the interval between the attacks grows shorter as the disease advances.

Nature of Acces—Section First—Type of an Acces of Epilepsy.—An individual, apparently in perfect health, without any premonition, gives a cry, and suddenly falls, deprived of intelligence. At once tonic convulsions commence at some point of the locomotive system, and ultimately extend to all the voluntary muscles. The contraction, in proportion as it is more energetic in the muscles of one side of the body than in those of the other—in the extensors than in the flexors, in the elevators than in the depressors, in the constrictors than in the dilators—induces such a variety in the fixed attitude of the members of the trunk, head, or the expression of the countenance. From this immobility of the muscles and occlusion of the glottis results, as has

been well shown by Van Swieten* and M. Beau, the suspension of respiration, then all the signs of asphyxia; we will add, as a natural consequence, the accumulation of saliva in the mouth, arising from the compression of the salivary glands.

This period is called *tetanic*.

After this first division, to the tonic phenomena are added, first, partial, then general, clonic convulsions; which, according to their predominance in such or such muscles, or such and such regions, produce the most irregular movements and hideous expressions of the face.

Respiration, incompletely re-established by these movements, is performed with considerable noise; you hear the noise produced by the passage of the air through the mucus or saliva, which soon appears upon the lips in the shape of foam. This foam is sometimes reddened by the blood that arises from the biting of the tongue. The urine passes involuntarily, moistening the garments of the patient.

This is the second phase, that of the *shocks*.

The *r  le* and the rigidity evidently persist after the clonic convulsions, then diminish, and finally cease more or less rapidly during the third period. This latter is marked by muscular relaxation, coma, and stertorous breathing. It is the perfect image of that condition which is known by the name of *cerebral commotion*. The loss of intelligence continues; the pupils are greatly dilated; respiration is low, profound and stertorous; the face is less colored; the pulse, from having been rapid during the preceding periods, now gradually lessens.

This is the snoring period, or *comatose state*.

The patient wakes up as if from a prolonged sleep, astonished, exhausted, terribly fatigued, and with a pain in the head. Has no recollection whatever of the painful scene that has just passed. Can articulate a few words, but soon falls into a sleep that is really reparative.

This fourth period is that of *return to consciousness*.

The duration of the first period is very short—about a quarter of a minute; each of the succeeding ones is about four times as long as that which immediately precedes it.

Such is the type of a complete attack of epilepsy; such is the result, according to my idea, of the numerous descriptions given by authors of the comparison of a number of facts; and finally, of my own observation. But this type, like all others, is in reality but a

*Commentaria in H. Boerhaavii Aphorismos, Parisiis, 1758, tome III., p. 398.

generalization, and we must not expect to find it exactly reproduced in the majority of epileptic cases. The different degrees of intensity, and the greater or less duration of the acces, present numerous varieties; more numerous than any physician would suppose, who had not specially studied this disease.

The study of all these varieties has never been methodically pursued, and this subject, alone all-important from a diagnostic point of view, we shall undertake, though without the pretension of calling it complete, for, to accomplish that, one should live in an epileptic hospital.

Section Second—Prodromes.—The prodromes are divided into *remote* and *near*; in this latter category are included those sensorial or convulsive manifestations that from their nature are intimately connected with an attack properly so called.

We have encountered prodromes only in nine individuals out of thirty-five; that is, in scarcely a quarter of the cases. Those observed were of a very variable nature.

Change of character: irritability, turbulence, violence, sadness, agitation, struggle against the attack.

Vertigoes.

Headache, congestion of the head, somnolence, general fatigue.

Nervous trembling.

Skin burning; sensation of cold; chills; sometimes paleness.

Nausea.

Diarrhœa; colic, without evacuations.

But these prodromes as signs are far from having that value that has been attributed to them. If the patient is watched a long time, and the precursory signs noted with care, it will be found that the prodromes are often wanting, and that even their appearance is not always followed by an attack.

Section Third—The Commencement of an Attack, and the Aura Epileptica.—The cases in which we can follow an attack of epilepsy from its origin are very rare, particularly in private practice. Even when an acces has taken place in the presence of a physician (unless he has been forewarned) who is both attentive and placed in favorable circumstances, it is difficult to observe from its very commencement. But, happily, there are cases where the phenomena do not follow each other so rapidly; where it is possible to study the initial steps of the attack from the information furnished either by the patient or his friends.

The first attack that took place in Observation No. 2 commenced

with a cramp or contraction with flexion of the two last fingers of the left hand; she then gave utterance to two or three screams, while her hand closed, her forearm bent, and her whole arm was raised in such a manner as to carry the hand towards the shoulder; the succeeding contractions were very painful; the head turned around; it seemed to the patient that the same sensation was about to pervade the whole body; consciousness was lost; and finally the young girl fell upon the floor, and had a well-marked attack. Same state of things took place in the next acces. All these details are authentic, having been given me by the girl herself, without my directing her by questions; her friends, intelligent persons, confirmed the facts.

Observation No. 9—(Third Series.)—Miss W., of Brooklyn. Disease first manifested itself in 1859; interval between attacks about fourteen days; always commence with cramps in the left foot, which gradually extend to the trunk, till the whole body is convulsed; has had as many as eight attacks in twelve hours. Came under treatment the 16th of March, 1862; has never had an attack since.

We shall find a similar case in observation No. 38. Painful cramp in the great-toe of one foot, which produced groans, and sometimes screams; the toes had a tending to turn up; the painful sensation, accompanied with a sense of fullness, gradually gained the limb, the thigh, the stomach, the chest, passed into the fingers of the hand; some of them turned, remounted to the shoulder, the side of the neck, the ears, the face, and terminated at the top of the head; then the patient lost her sight, the head turned upon its axis, or backward; consciousness vanished; the members straightened out and stiffened; the close of the attack was quite short, and marked by some shocks of the head.

As regards the fall, the duration of the *début* always allowed this second young lady to sit down and sustain herself, otherwise she would certainly have fallen. Observe that, in this last case, the cramp sometimes commenced in the leg, the thigh, the fingers, &c., and sometimes passed from one side to the other, but always advancing from below upward on the same side. The details of this second case were as correct as those of the first. Having been myself a witness to one of these cases, I can bear witness to their minute exactness.

I shall here cite Bonet*—interesting from the double point of view of the influence of the ligature, and the preservation of intelligence during the attacks.

* *Sepulchrum*, folio 1700, t. I., sec. 12.

"Many sympathetic cases of epilepsy have been cited, dating their origin from many different parts of the body, but none have ever been published where the affection commenced in the inguinal region. I observed a case of this kind in 1656, in the person of M. Rosselet, of Neufchatel, in Switzerland. He was a man fifty years of age, red hair, a *bon vivant*, and somewhat addicted to the society of the fair sex during his youth, as he himself said. At intervals he felt in the left groin a swelling like a small bubo; from thence a crawling sensation passed slowly down the thigh to the very sole of the foot. When it had arrived there, a kind of wind or vapor (*vapor quidam quæris aura*) mounted rapidly from this point to the brain, though it only reached the left side, as could be seen from the fact that the convulsions only affected the left side of the body and face, which was deformed by frequent grimaces. The patient lost neither speech nor consciousness, though this latter was altered, the vapor also reaching the nerves of the tongue. He said hesitatingly to me in the midst of a paroxysm, '*See, see! how this terrible evil torments me!*' He experienced, at the same time, shocks in the arms and legs; this condition of things lasted about five minutes." The patient, to whom Bonet proposed the application of the actual cautery at the point of departure and throughout the length of the course of *the aura*, refused in the most absolute manner. "He consented, however, to employ a ligature above or below the knee, so as to intercept the course of *the aura*. The moment that this latter commenced, and the patient felt the itching and tumefaction of the groin, he drew tightly around his leg a garter that always hung on his bed. He always succeeded in arresting the paroxysm, and gave up all other remedies. One evening, while dining with his wife and children, who had pushed the table against his bed, he felt the vapor coming on; the obstacles that prevented his taking his garter could not be removed with sufficient celerity; the vapor became all the more violent from having been so long compressed, and mounted with such fury that this eminent man perished in the paroxysm."

The following is the opinion of Esquirol on the subject: "In a great number of cases, epileptics, before losing their consciousness, feel a convulsive movement, a kind of pain; they experience a chill, a vapor (*aura epileptica*) on the head, the face, one of the arms, the hands, the thighs, the legs, the toes; these different feelings are propagated the whole length of the limbs, towards the head, and when this *vapor* arrives at the head the patient loses consciousness;

then the convulsions are sometimes general, sometimes partial, and sometimes limited to the limb that was primarily affected."

As we advance in the seventeenth and eighteenth centuries, we find the cold vapor less and less frequently mentioned; it is replaced by spasms, cramps, convulsions and shocks; and finally, in our time, criticism, the child of doubt, has denied the phenomena altogether.

From a close analysis of all the most complete and recent facts, it seems legitimate to conclude that the prodrome described under the name of *aura epileptica* is nothing more than the first convulsive manifestation of the attack, taking place in a part of the system more or less removed from the brain.

To give a definite *résumé* of the subject—

The functional alteration of the nervous centres, which constitutes an attack of epilepsy, usually invades those organs from the superior part of the cerebro-spinal axis to its inferior portion; but it may also commence at various points throughout the length of this system, as well as in its inferior portion. This last form is the severest of all.

I am inclined to think that the cry, which is the second phenomenon at the commencement of an attack, is an expression both of surprise and of the pain caused by the convulsion. The cry is met with in about half of those epileptics that have complete attacks, but it is only constant and reliable in about a quarter of the cases. In the case of children it is often replaced by tears.

This symptom is never connected with vertiges or incomplete acces. Generally speaking, the most violent attacks are those that are preceded by the cry or scream.

The fall is the third symptom of an attack; it is much more frequent than the cry; without, however, being constant, and may be so violent as to cause death.

When the period of cramp or partial initial convulsions is prolonged, the acces is more generally incomplete, or very brief.

One strong scream, on the contrary, indicates the commencement of a violent attack.

The more sudden the fall, generally the shorter the acces.

In a word, *the longer the debut, the less violent the crisis; the more sudden, the more intense the acces.*

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The Characteristics of some of the Poisonous Alkaloids, and the Methods for Detecting the Same. By USLAR & ERDMANN. (Translated for the MONTHLY.)

The difficulties which attend a search for an alkaloid in medico-legal investigations, associated with other organic substances, are well known. The following process commends itself by its simplicity as well as its general applicability. It is based upon the following facts: 1st. The free vegetable bases are soluble in amylic alcohol, especially when cold; 2d. Pure water, or water that has been made alkaline, will not remove these bases from such solutions; 3d. But they may be separated completely if they have first been converted into salts by chlorhydric acid, since the organic chlorides, which are then formed, are but slightly soluble in amylic alcohol.

The process is as follows: The suspected matter is reduced to the consistency of broth with water, slightly acidulated with chlorhydric acid, then allowed to digest for two hours at a temperature of from 60° to 80° C.; filtered through moistened linen, the residuum exhausted with warm water, also acidulated, and after the liquids are mixed a slight excess of ammonia is added; concentration is accomplished at an open fire, and finally it is dried in a water-bath. After having exhausted the residuum with warm amylic alcohol, it is then speedily filtered through paper, which has previously been moistened with the same amylic alcohol.

The product of the filtration is ordinarily mixed with fatty or coloring matters, which may be removed by agitating the liquid rapidly with water, nearly at the boiling point, to which a small quantity of chlorhydric acid has been added: the amylic alcohol gives up the alkaloids, whilst it retains the most of the fatty or coloring matters. The alcohol is then removed by means of a pipette, supplied with a caoutchouc cover;* the warm aqueous solution is then agitated with a fresh quantity of amylic alcohol, and thus, without much trouble, all the foreign substances are completely removed, so as to leave the acid solution, perfectly colorless, containing the alkaloid in the form of a chlorhydrate. This is then slightly concentrated, ammonia is added in slight excess, and amylic alcohol is added again, which, with the aid of agitation, takes up the alkaloid. As soon as the two layers of liquid are completely separated, the upper (containing the alco-

* This form of pipette is recommended in order to avoid the inhalation of the vapors of the amylic alcohol.

hol and the alkaloid) is withdrawn, and the lower layer is treated with a fresh supply of warm amylic alcohol. The alcoholic solutions being mixed, are then evaporated in a water-bath, when the residuum is ordinarily found to be the pure alkaloid. Should it be colored, the operations already described must be repeated; that is, the residuum must be dissolved in chlorhydric acid, agitated with the alcohol; this removed with the pipette, then supersaturation with ammonia resorted to, amylic alcohol again employed, and evaporation in the water-bath. It is a very rare thing to have the alkaloid in any other condition but a state of complete purity from this process; should it not be so, the process is again repeated. (An objection to the process is suggested by Nickles, in the case of nicotine and coniine, which could hardly escape decomposition on account of exposure to the air and to the action of ammonia, at the temperature of the water-bath.)

The authors have verified their process by various experiments. Some chlorhydrate of morphia being mixed with panada or putrescent meat—the whole being exposed to the action of the sun for fifteen days—was detected by the peculiar reaction it affords with the sesquichloride of iron, although the authors experimented with less than a decigramme of the chlorhydrate, (the quantity employed varied from 0.054 to 0.005 gramme,) mixed with from one to two kilogrammes of organic matter. They have also recovered one drop of nicotine and two drops of coniine mixed with 750 grammes of panada. In the same way they have experimented with 9 milligrammes of strychnia and 8 milligrammes of narcotine; and with a mixture of 0.012 grmm. of morphia, and 0.013 grmm. of narcotine mixed with pea soup and meat, and exposed for four days to putrefaction. After the alkaloids were obtained, they were separated from each other by the use of ether.

CHARACTERISTIC REACTIONS OF SOME OF THE ALKALOIDS.

1st. Sulphuric Acid containing a very small quantity of Nitric Acid.

This reagent is prepared by taking six drops of nitric acid (sp. gr. 1.25) and 100 cubic centilitres of distilled water. Ten drops of this mixture are added to 20 grammes of pure concentrated sulphuric acid. From 8 to 20 drops of this reagent are employed, according to the quantity of the alkaloid, which may vary from one to several milligrammes. At the end of about half an hour the following results will be remarked:

	MORPHIA.	NARCOTINA.	STRYCHNIA.	BRUCIA.	VERATRIA.
With the acid reagent.....	Violet red.	Onion red.	No change.	Red and then yellow.	Yellow and then brick red.
Two drops of water being added	Violet red.	"	"	Yellow.	Red and then cherry red.
Three drops of water ...	Intense violet red, especially when slightly heated.				

2d. Sulphuric Acid with the addition of Peroxide of Manganese.

The substance to be examined is moistened with from 8 to 20 drops of sulphuric acid, and then a few pieces of the peroxide of manganese (free from powder) of the size of a pea are added. At the end of an hour the following reactions are perceived:

Morphia furnishes a *mahogany-brown solution*.

Narcotina " *red solution*.

Strychnia " *purplish violet, and then a dark onion-skin red*.

Brucia " *red, and then a bright yellow*.

Veratria " *dirty cherry red*.

If, at the end of an hour, these solutions are diluted with from four to six times their volume of water, added so as to avoid all increase of temperature, and weak ammonia be carefully added so as to avoid excess of the same, we will observe the following alteration in the color of the solutions:

That of morphia will become a *dirty yellow*.

That of narcotine will remain *red*.

That of strychnia will become a *purplish violet*.

That of brucia will become a *golden yellow*.

That of veratria will become a *brown, turning to a yellow* when ammonia is added.

On saturating these solutions slightly with ammonia, the following will be remarked:

The morphia forms a *brown* solution, afterwards precipitating.

The narcotina instantly furnishes a *brown* precipitate.

The strychnia forms a *yellow or greenish yellow* solution.

The brucia forms a *yellowish*.

The veratria forms an instantaneous *greenish brown* precipitate.

If these solutions be again acidulated with sulphuric acid, the primitive colors are reproduced.

From the *ensemble* of these reactions a systematic plan of detecting these alkaloids qualitatively is thus obtained:

A. The substance is moistened with from 4 to 6 drops of pure concentrated sulphuric acid.

1. If there be *no reaction*, *brucia*, *narcotina*, and *veratria* are absent.

2. If a *rose* color become *yellow* afterwards, *brucia* is present.

3. If a permanent yellow is immediately formed, *narcotina* is present.

4. If a *yellow*, gradually becoming a *red*, *veratria*.

B. Whether any reaction or not has been produced, the liquid resulting from A is treated with from 8 to 20 drops of the sulphuric acid containing nitric acid, (prepared as has been described,) and from 2 to 3 drops of water; at the end of about half an hour the following may be remarked:

If *morphia* be present, there is a violet red.

If *narcotina* be present, there is an onion red.

If *strychnia* be present, there is no change of color.

If *brucia* be present, there is a yellow.

If *veratria* be present, there is a cherry red.

C. Whether the process B has produced a change of color or not, from 4 to 6 fragments of the peroxide of manganese (free from powder) of the size of a pea are added, and at the end of an hour will be noticed:

A *mahogany brown* if *morphia* be present.

A more or less reddish yellow if *narcotina* be present.

A dark onion red if *strychnia* be present.

A gamboge yellow if *brucia* be present.

A dirty cherry red if *veratria* be present.

D. The separate colored liquids arising from each substance, and obtained by these three processes, being then mixed in the cold with four times their volume of water and nearly neutralized by the careful addition of ammonia, if we observe,

1. A dirty yellow color, becoming a brownish red by supersaturation with ammonia without forming an immediate precipitate, *morphia* is present;

2. A red color becoming a dark brown by supersaturation, indicates *narcotina*;

3. A *purplish violet* solution which is converted into a yellow or greenish yellow from excess of ammonia, *strychnia* is indicated;

4. A golden yellow solution, not altered under the influence of excess of ammonia, *brucia* is indicated;

5. A *brownish* solution becoming yellow under the influence of am-

monia, an excess of which precipitates a *clear brownish-green* precipitate, shows veratria.

Some of these colors may be rendered permanent, or at least to last for some little time; and hence the colors of the first series are pretty well preserved in the presence of excess of pure concentrated sulphuric acid. The purple reaction, produced in strychnia at the instant the point of neutralization has been reached, will be preserved for a day, at least, in the presence of alcohol.

L. H. S.

Malt as a Therapeutic Agent. (From the French of Dr. CHAS. FRÉMY.)

The author occupies the first portion of his paper with a description of the method of preparing malt, and the different forms in which he has employed it therapeutically. The powder of malt and the extract he has most frequently employed in his experiments, during a period of six months; and the therapeutic effects are of sufficient interest to present the remainder of his paper to the readers of the MONTHLY.

In sixty-four cases of phthisis, where the preparations of malt were employed constantly, he regrets that he saw none cured absolutely by the use of this agent. Five of them, however, left the hospital very much better, calling themselves cured, but auscultation satisfied him that this statement could not be accepted, although a notable amelioration of symptoms certainly had been produced. The condition of the other cases had not changed; the phenomena of auscultation remained the same, and the disease did not appear even arrested in its progress, although, as a general thing, the common accidental symptoms which accompany the progress of pulmonary tuberculization (such as night-sweats, diarrhœa, &c., &c.,) seemed in every case to have been advantageously modified.

But although, in *confirmed* phthisis, with tuberculous excavation of the lungs, the preparations of malt only afforded either no results, or such as were doubtful, still it was different in cases of bronchitis, *incipient* phthisis, and pulmonary catarrh, where these preparations were employed with decided advantage.

A young woman, twenty-five years old, who had suffered from a cough for several years, was considerably emaciated, and showed at the apex of both lungs clear signs of tuberculous induration, employed malt beer and powdered malt for two months. Cod-liver oil

and other methods of treatment had produced no effect on the progress of the disease up to the time when she began the use of the malt. Under its influence her health improved. She ceased coughing, respiration became more full, the respiratory murmur equal and soft, appetite excellent, strength returned, and her *embonpoint* was quite that of health.

In cases of simple bronchitis, without fever, with hoarseness, malt, in many cases, aborts the diseases. In cases of chronic catarrh of the lungs, the author has seen the preparations of malt succeed marvelously well. These preparations answer admirably, especially towards the end of bronchial attacks of a protracted character, which sometimes terminate in the production of grave symptoms of dyspepsia, especially with the old: the extract of malt, in these cases, relieves the digestive troubles, besides curing the bronchitis. In simple dyspepsias malt beer is successfully administered, and succeeds very well when the appetite does not return, and the saburral complication has completely disappeared.

In Germany it is employed with the greatest advantage in cases of choroanaemia, which occur often in nurses.

It is difficult to specify the *modus operandi* of these preparations, which have been, down to the present time, employed somewhat empirically. The reconstructive and reparative power of malt is undoubted. The powder is a true analeptic, and the bitter principle, due to the presence of lupulin, should give it great power in re-establishing the functions of the stomach in different forms of dyspepsia, of which this viscus is the seat. The analeptic and reconstructive properties are due to the presence of a considerable amount of diastase. This is produced in the germination of the barley. The action of this substance is such that, according to the experiments of Bidault, if we macerate the powder of malt along with water at 75°, a solution is obtained containing glucose holding *gluten in solution*. In consequence of the presence of the glucose, this liquid is slightly laxative and emollient; and because of the soluble gluten, it is tonic and invigorating. The gluten is a soluble article of food, and in a condition easily assimilated by our organs, without fatiguing them.

The extract of malt is preferred in the treatment of incipient laryngo-bronchitis, accompanied with hoarseness.

The author has met numerous persons affected with this kind of tracheitis, where the disease was cut short in the space of forty-eight hours. In other cases, he has obtained rapid cures of chronic bronchitis, with or without catarrhal complications.

L. H. S.

Tablets of Chlorate of Potassa. (DETHAN'S Formula.)

These tablets are intended to be used in scorbutic and ulcerated membranous affections, accompanied with foetid breath. The following formula is furnished by the author to the editor of the *Journal de Chimie Médicale*:

Chlorate of potassa, 20 parts.
Balsam of tolu, 5 "
Alcohol, q. s. to dissolve these.
Pulverized sugar, 75 parts.
Mucilage of gum tragacanth, q. s.

A homogenous paste is made, which is then divided into pastilles of 1 gramme weight. Each pastille contains 0.20 centigramme of the chlorate, and 0.05 centigramme of tolu. Taken in quantities of from 12 to 20 pastilles a day, this preparation acts most beneficially, especially on account of the direct action it exerts on the seat of the disease. The balsamic properties of the tolu increase the salutary action of the chlorate of potassa; and the tolu also, by its agreeable odor, contributes to modify the foetidity of the breath. L. H. S.

Translations from the German. By C. A. HARTMANN, M.D., of Cleveland, Ohio.

VIII. *On Mental Diseases combined with Paralysis.* By Dr. JOFFE, of Vienna.

The disposition to paralytic dementia manifests itself psychically by great receptibility with little reaction in individuals of great anxiety and easily perplexed; somatically, by habitual congestions to the head. Occasional causes are all conditions operating in the same direction; sexual excess, immoderate use of spirituous liquors, continued mental exertions, with loss of sleep, depressing influences, grief. Individuals between 30-40 years of age are most exposed to such affections; males much more than females.

There are two periods in the development of the disease: hyperæmic irritation and motory paralysis; the former not unfrequently concealed by the absence of all symptoms. A better division is that into mental disturbance and morbid innervation. The fundamental conditions of the mental faculties are thoroughly disturbed from the beginning. The normal reproduction and association of ideas being obstructed,

the most common occurrences are not comprehended. The patients complain of being starved before they have finished a sumptuous repast, mistake noon for midnight, &c. This intellectual desolation is a characteristic symptom of progressive paralysis, under whatever form of mental disease (mania, raving, melancholia, senseless loquacity, apathy,) it may appear; but the special symptoms are greatly varied by the frequent paroxysms of excitement, and the changing ideas and hallucinations. With the progressing disorganization of the brain, they are more and more superseded by the phenomena of nervous lesion. Hallucinations of sight and hearing are frequent; taste and smelling usually altered so that the most nauseous things do not affect them. Excessive sensibility of the skin occurs occasionally; in most cases the sense of feeling is normal; at a later period, weakened.

Convulsions are frequently among the premonitory symptoms, and apoplectic fits among those introducing the disease. In its further course, difficult moving of the lips and trembling of the tongue come on. Speech slow, drawling, stammering, stuttering. Sooner or later, stiffness of one extremity, hemiplegia, and finally paraplegia. Twitchings of one or several muscles appear now frequently, and are apt to run into general or unilateral convulsions, with loss of consciousness, continuing for hours and days, and finally ceasing after several intermissions, or ending in death with paralysis of the bladder and pharynx.

At an early period, the iris is no longer affected by light, nor the most sensible parts of the body by mechanical irritation. The influence of electricity corresponds to the preservation of the muscular tissue. The vegetative functions remain intact for a longer time; at last nutrition becomes disturbed, and emaciation follows; frequently with atrophy of all the parenchymatous organs. Pneumonia and decubitus are almost constant complications.

Usually the progressive paralysis is a primary, rarely a secondary disease, with exacerbations and remissions of the symptoms; mostly chronic, but occasionally acute in character. Duration from six weeks to six or seven years.

The prognosis is unfavorable. By far the most cases terminate in death. Recovery is impossible, except where the disease is of recent origin, not announced by trouble in the peripheric nerves or apoplectic symptoms, and where the occasional causes have not been operating too long. During the first stage of the disease its progress may be stopped at any time, with more or less preservation of the mental faculties.

The principal therapeutical indication is to prevent and subdue the

arterial and nervous excitement. The remedies for that purpose are known. Venesection and douche are injurious under all circumstances.

The disease consists materially in an increase of the areolar tissue, with destruction, and colloid as well as amyloid degeneration of the nerve-tubes and cerebral substance. After death we find the brain atrophied, of a dirty white color, more or less softened, especially in its inferior layers. Bones of the skull thick and compact. On the inner surface of the dura mater, frequently pseudo-membranous coagulations, with or without extravasates. Between the layers of the arachnoidea, accumulation of blood and serum in varying quantities. The inner membranes of the brain usually infiltrated with serum, and the pia mater adherent to the cortical substance. Ventricles often considerably dilated, and containing serum. After a protracted course of the disease, the spinal marrow appears likewise atrophied beneath exuberant areolar tissue. Prof. Wedl has recently shown that the capillaries of the brain are obliterated in consequence of the tissue hypertrophying around them. This necessarily produces obstruction of the circulation, and nervous irritation; a bad complication of the cerebral symptoms.—(*Zeitschr. d. Gesellsch. d. Aerzte zu Wien.*)

IX. *Anatomical Effects of Tight Lacing.* By Prof. ENGEL, of Vienna.

Chest greatly elongated; anterior extremities of the tenth and eleventh ribs approaching or touching the crest of the ilium; intercostal spaces wide. Ribs forming a very acute angle towards the lower part of the sternum, or running parallel anteriorly, so as to form a long, narrow furrow over the pit of the stomach. Lower ribs occasionally bent outward in their anterior segments.

Abdomen diminished in size; presenting a regular round protrusion from the navel downward. Its integuments very thin and relaxed, often indicating the windings of the smaller intestines.

Perineum convex; the region of the rectum not unfrequently forming a conical eminence.

Diaphragm very low, with its highest point hardly reaching the sixth rib; frequently laid in folds. Instead of being arched, it is very flat, declining posteriorly; always relaxed, particularly on the right side.

Heart moved downward to the anterior extremity of the seventh rib; aorta elongated.

Liver pressed downward, elongated in shape, approaching the crest of the ilium, or reaching below it. Fundus of the gall-bladder touching the anterior superior spine of the same bone, or near the navel.

A transverse furrow, of variable depth, running over the anterior surface of the right lobe; sometimes several inches in width. Coats in this furrow thickened, yellow, not transparent; the substance beneath, pale, anæmic; sometimes very thin, and exhibiting the remains of obliterated vessels. Above that furrow the right lobe appears like a broad rounded margin; below it is unusually thick and round; its posterior surface concave, the anterior one flat. The region of the round ligament, not so easily yielding, produces a deep notch in the lower margin. The external portion of the right lobe atrophies, or turns backward and inward, forming a deep, perpendicular furrow on the inferior surface of the organ. The dividing line between the two lobes moving towards the stomach, the round ligament descends in a straight line.

Transverse colon on the right side, pressed downward by the liver, pushes other portions of the intestines along, and may rest in the right iliac fossa, running in an arched form, a little beyond the left iliac crest. Ascending colon lower than usual; running not unfrequently into the transverse portion in front of the right psoas muscle, where also the cæcum takes its position. All the larger intestines remain forever contracted.

Stomach pressed to the left side of the abdomen, running perpendicularly, with a rectangular curve about an inch from the pylorus, which is usually much below its usual place—in front of the spinal column. The whole stomach always considerably contracted; frequently with a transverse division.

Spleen constantly very small; its situation dependent on the altered position of diaphragm and stomach.

Duodenum displaced inferiorly and inwardly, sometimes to the front of the spinal column; its horizontal portion very short and curved.

Pancreas frequently atrophied in consequence of pressure by the liver; always lying nearly perpendicularly along the anterior surface of the spinal column.

Small intestines in the lower part of the abdomen and pelvis, usually extended by gas; some of them ascending behind the transverse colon, the stomach, and even the pancreas.

Bladder flattened, relaxed; not very contractible.

Womb flat, pressed on to the rectum; frequently adherent to it, with dilatation of the perineum. Where this adhesion does not take place, prolapsus of the womb is inevitable.

The right kidney changes its situation in accordance with the liver,

moving towards the vertebral column and pelvis, so as to reach, with its lower portion, the iliac fossa, and run in an oblique direction from the sacrum towards the crest of the ilium. The left kidney seldom comes down to the part last named.

The altered situations of the blood-vessels present nothing of particular importance.—(*Wiener Medizinische Wochenschr.*)

Transactions of the Medical Society of the County of Kings.

REGULAR MEETING, DECEMBER, 1861.

Case of Hydrocephalus complicating Labor. Dr. ENOS.

Mrs. F., æt. 44 years, was taken in labor Nov. 13th, with her eighth child. The waters were discharged early in the labor, and though the pains were frequent and agonizing, yet not expulsive; the os was but little dilated for 48 hours; vomiting frequent. The child felt to her like an oppressive weight. The bones of the head were felt to be widely separated; but the precise position was not ascertained.

At the end of the second day the pains became more severe, and the os more dilated. The head did not engage in the superior strait. The occiput was now *supposed* to be towards the left acetabulum. The parietal bones were parted far asunder; the widely separated edges felt like the divergent crests of the iliac bones. This impression was so strong that I felt again and again to find the projecting spines of the sacrum in the intermediate space; but all here was soft and fluctuating. By introducing two fingers far in towards the right sacro-iliac symphysis, I slipped them on the os frontis, and felt the nose and one eye. Hence, I inferred that this was a case of intra-uterine hydrocephalus; and as severe and continued pains, with a fully dilated os, did not cause the head to enter the superior strait, I concluded operative interference was necessary. Dr. Mitchell saw the case in consultation, and concurred in the diagnosis, and also in the propriety of perforation. The operation was performed, when from one to two pints of clear fluid escaped. The head descended with the next pain, and labor was soon completed. The child was a female, large and normal, except the head. There was a momentary, slight and inaudible attempt at respiration.

The mother had been feeble during the pregnancy, and had suffered previously from two attacks of puerperal peritonitis. The head, when stuffed with curled hair, has all its diameters more than *one* inch above

the normal standard, and these are much less than when the head was distended with fluid. The mother had a slow recovery, with much purulent discharge from the vagina.

REGULAR MEETING, FEBRUARY, 1862.

Dr. J. T. CONKLING reported a case of sudden death from fatty degeneration of the heart and occlusion of the coronary arteries.

Mr. A., aged 63, had been, until within a few years, an active merchant. Without any acute disease, his health had been declining. He was unable to walk rapidly; found it difficult to go up stairs, and was unable to lie upon the left side. He consulted me professionally about a year ago on account of debility, and was advised to adopt some mild means to obviate constipation, and to take tonics. He declined at that time, as he always did subsequently, a careful examination of his chest. I could only detect a weakened action of the heart.

About six months since I was called in haste to see him. The messenger said he had fainted. I found him entirely unconscious; his skin cool; pulse weak; respiration normal. He rallied after the administration of stimulants; was confined to his bed for a couple of days; to his house for a week, when he again resumed his usual mode of life, but never regained the strength he had before the attack. The slightest excess in his exercise would bring on attacks of dyspnoea, but he was at all times free from pain.

On the fifth of the present month he had been, during the day, twice to New York. On returning, about five, P. M., he had great difficulty in getting home, on account, he said, of "shortness of breath." He took a seat by the fire, complained of slight nausea, but no pain; was about to swallow some water, when his head fell back and he ceased to breathe.

Post-mortem, sixteen hours after death:

The body was rounded and symmetrical, by deposit of an abundance of adipose tissue beneath the integument. On opening the thorax, the lungs were found healthy, while the heart was enlarged, and surrounded by a large quantity of fat. The pericardium contained — ounces of serum. The aortic valves were slightly deficient, and under the serous coat covering them, and lining the aorta, were collections of atheroma containing calcareous matter, so that to the touch they were hard and gritty. The mitral valves were perfect. The coronary arteries were occluded with atheroma and calcified matter. The cavities were enlarged. The walls of the left ventricle thickened and

softened; those of the right atrophied. The weight of the heart was eighteen ounces.

Under the microscope, the fibres from the walls of the left ventricle retained the most of their stria; yet there were many places in the field where free fat-cells were abundant, while similar cells were found between the fibrilla, and at different points the sarcolemma was crowded with minute oil-granules, frequently breaking entirely the outline of the fibre. The columnæ carneæ were firm, and exhibited no trace of fat under the glass.

This is an additional case to prove that the calcification of the coronary arteries is not, necessarily, connected with angina pectoris. The entire absence of pain was a marked feature in the case.

The attack, some months previous to death, in which there was sudden loss of consciousness, as in apoplexy, and recovery without paralysis, is an interesting fact in the history. Dr. Cheyne first associated such seizures with fatty degeneration of the heart, and Drs. Adams, Law, and Stokes have reported similar cases. In one of the cases detailed by Stokes, there was calcification of the cerebral arteries. Pathologists now regard such attacks as connected in some way with cardiac disease, but not dependent upon it.

REGULAR MEETING, MARCH, 1862.

Dr. JOHN G. JOHNSON related a case in which a child of 3 years of age had passed three calculi in nine months' time.

Thos. D., $2\frac{1}{2}$ years of age, came under my observation about one year ago, suffering from retention of urine. The child is a strong, fleshy child, and mother states that she has been in the habit of feeding the child with meat three times a day. They have always lived in Amity Street since the birth of the child. Percussion over the bladder showed that it was distended, rising far above the pubis; introducing a silver probe, which had been curved to the shape of the urethra, a large calculus was found distending the urethra, at the junction of the spongy and membranous portion of the urethra; small, narrow-bladed forceps were introduced, and an attempt was made to extract the calculus by the use of the forceps. This was unsuccessful, both in my hands and those of the staff present. An attempt was made to press the calculus forward with the finger in the rectum. This could not be done. The child was placed under the influence of chloroform, and another attempt to remove was made.

Failing in our endeavors at extraction, after the most thorough trial and dilatation of the anterior portion of the urethra, we attempted,

by means of a large silver catheter, to force the calculus back into the bladder; but this could not be done. The calculus was then cut down upon, and its removal effected through the opening. The wound healed readily. The calculus was of an irregular, oval shape, rough on the sides and smooth at the ends, and so large that it would not pass through the guage of a No. 11 Tiemann's bougie. It was somewhat strange that so large a calculus could have worked its way into the child's urethra. As it was, it completely obstructed the passage of the urine, not allowing the ordinary stillicidium, which occurs when there is an obstruction of the urethra.

About two months after this, the mother found the child complaining again of pain in the penis, and gave him some flaxseed tea; shortly after, in an attempt to pass water, a calculus of considerable size was forced into the urinal. Some six months after this, the mother again brought me the child with retention of urine, though not complete at this time. On examination, a calculus was found lodged nearly in the same position as the first one. After dilating the urethra as far as possible by bougies, a small pair of narrow-bladed forceps was introduced, and the calculus removed.

Whether the unnaturally stimulating diet of meat had anything to do with the successive formation of the calculi, I do not pretend to determine; but it is an interesting query as to the cause of so many calculi being formed in so short a time in so young a child.

Cancer of both Mammæ and the Axillary Glands of each Side.

Dr. JOHN G. JOHNSON reported a case where the patient had scirrhus, or hard cancer, involving *both* mammæ and the axillary glands of each side. It was an unusual case in his own experience, and in that of the surgeons who had seen it. Prof. Frank H. Hamilton, whose surgical observations have been quite extended, regarded it as an unique case. The ordinary writers upon surgery make no mention of more than one mamma being involved; and where the disease extends, it is usually to the internal organs, as to the liver, uterus, stomach, or lungs.

Hannah D., 40 years of age; always enjoyed robust health till the period of her marriage, since which time she has had three living children, and numerous miscarriages.

About five years ago, while nursing her second child, she had an engorgement of the right mamma, or "weed," as she terms it; this did not suppurate, and she was able to nurse the child from the left breast. The engorgement nearly subsided, and she was able after a

short time to nurse the child from the affected breast; there remained, however, a hardness about the size of a filbert on the under side of the breast, near the nipple. Two years after this, her last child was born; this, for a time, was nursed from the affected breast. When the child was nine months old she was obliged to discontinue nursing it from the right breast, because the nipple was so drawn in, and somewhat painful; she feared from the soreness that she would have an abscess form, should she continue nursing. Shortly after this she came under my observation, August 27, 1860.

At this time the right mamma bore the well-marked characteristics of scirrhus; the nipple was retracted, and harder than the other nipple. The breast had an irregular, nodulated character; the veins were enlarged over the breast, and the glands in the axilla were slightly enlarged. The woman's general health was not apparently affected by the disease, and removal was urged by all the surgeons present at the consultation. She declined submitting to an operation.

Nov. 8th, 1860, she again came under observation. At this time the cachectic appearance was more marked. The mamma appeared red and irritated at points, as if about to become open cancer; shooting pains were felt through the breast from time to time. The other breast seemed to have an indistinct hardened feel in points.

Dec. 24.—Applied for relief from the lancinating pains, which were so severe that she could not sleep, and was now willing to submit to an operation. This was declined, as the cancerous cachexia was marked. She had become emaciated, of a waxy color; the breast was reddened in several points, as if ready to ulcerate; the axillary glands were much enlarged, and the left nipple was now much retracted, and a distinct nodulated character in the whole mamma, with the axillary glands much involved on the left side, also. A palliative treatment was adopted, and the patient continued to fail; the right breast ulcerated; the ulcer having the hard, elevated edge, peculiar to malignant disease, while the left breast continued to have the nodulated character more marked; the nipple to become more retracted, and then the breast apparently became smaller from the absorption of the adipose tissue, till the patient finally succumbed to the disease.

The case thus presented, through an extended period of observation, the well-marked character of hard cancer involving both breasts.

REGULAR MEETING, APRIL, 1862.

Case of Pneumo-Hydrothorax, with Specimen. Reported by Dr. J. H. H. BURGE.

The specimen which I present is the left lung of a gentleman only nineteen years of age. It is beautifully illustrative of the condition of things in pneumo-hydrothorax; but, as the case presented other marked points of interest, I will briefly detail it. It occurred in the practice of Dr. Otto Rotton. He was called on the 10th ultimo, and I saw the patient in consultation with him on the 14th. The Dr. informs me that the physical signs had changed but slightly from the time of his first visit till I saw the case.

On percussion, there was great dullness over the base of the right lung, and, indeed, almost to its apex. The left chest was highly resonant, except at the most depending portion—this, of course, varying according to the position in which he lay. We did not measure the chest, but there was no perceptible difference between the two sides. Auscultation revealed in the right lung loud crepitant and sibilant *râles*, with entire absence of vesicular murmur. In the left, the most distinct amphoric sound, with the clearest and most constant metallic tinkling—entirely uncomplicated with any other sound of respiration. Sputa *rusty*—somewhat streaked with fresh blood.

Of course there was no difficulty in diagnosing pneumonia in the right side, and pneumo-hydrothorax in the left. We sought to ascertain from the history of the case when the rupture of the left lung occurred, but, to our surprise, we learned that the patient had been regularly to his business in New York daily, and very frequently to parties in the evening, up to the very week when we first saw him. It was only upon very careful inquiry that we were told he had experienced some cough and pain in the side, for which he had taken some domestic remedies, and that several years before he had a serious fall, striking upon the left side of his chest. There was, up to the time of his death, no considerable emaciation, and his friends could hardly believe that he had suffered from any chronic disease. He died on the 21st, and the autopsy was made on the 22d.

The right lung was found to be much inflamed, and presented the different stages of hepatization. There were also a few tubercles, and one cavity in the upper lobe, of the size of an English walnut. Upon opening the left pleural cavity, a large volume of air rushed out, as if it had been confined with great pressure. The lung occupied a space not much larger than a man's hand, and there were per-

haps three pints of greenish fluid in the cavity. The entire surface of the lung was covered with coagulated lymph.

But one organized band of false membrane existed, very strong, and nearly an inch in diameter. It was upon the anterior aspect of the upper lobe. Upon the anterior surface of the same lobe was an opening of the size of a goose-quill, which evidently communicated with a cavity in the lung.

Dr. Enos related the following case of

Metro-Peritonitis.

Miss W., æt. 25 years, menstruated in Oct., 1861, one week later than she should have done. The discharge was suddenly checked, when she was seized with chill. Nausea, and severe pains in the hypogastric region, extending to the back, with great tenderness over the uterus and ovaries. Opium was given, to allay pain. The bowels were subsequently relieved by ol. ricini, and the bladder emptied with the catheter.

Oct. 27.—Has had several chills; pulse 120; bowels greatly distended, and most tender to pressure over the left iliac and hypogastric regions. Enema of tinct. opii every four hours. Emplast. hydrarg. et belladonnæ applied over the abdomen. Diet: Beef-tea, arrow-root, and wine-whey.

Oct. 30.—Pulse 120; respiration 20. Catheterized, and urine scanty and high-colored. Directed sulph. morphiæ, gr. $\frac{1}{4}$, every four hours.

Nov. 6.—Abdomen very tense. Vomiting, and starting in her sleep. Sumat. morph. sulph., gr. $\frac{1}{2}$, every two or three hours.

Nov. 11.—More comfortable. Pulse 104; respiration 15. Bowels less tense.

Nov. 13.—Patient had spontaneously two evacuations from the bowels, yellow and consistent—the first for *nineteen days*. Directed beef-tea and brandy. Morphia every four hours.

Nov. 20.—Sits up a little. Pulse 120, and feeble. Pain subsiding—urines spontaneously. Directed quinia, 2 grs. every six hours, and three to six ounces of brandy per diem.

Dec. 7.—Pulse 100. Now fairly convalescent. Opium administered *pro re nata*. The pulse and respiration had been but slightly influenced by opium, and narcotism had at no time been induced.

Dr. Enos thought inflammation had commenced in the uterus, unrelieved of its congestion by checked menstruation—then extended to ovaries, and finally involved the peritoneum in general.

QUARTERLY REPORTS ON MEDICAL PROGRESS.

REPORT ON OPHTHALMIC AND AURAL DISEASES.

By WM. FREDERIC HOLCOMB, M.D., Prof. of Ophthalmic and Aural Surgery in the New York Medical College and Charity Hospital.

1. "*Case Illustrating the Beneficial Effects of Electricity in Certain Diseases of the Eye.*" By SOELBERG WELLS, M.R.C.S., Eng.; M.D., Edinburgh; Clinical Assistant to Mr. Bowman at the Royal London Ophthalmic Hospital, (Moorfields,) &c., &c. (Medical Circular, Vol. 20, No. 496.)
2. "*Clinical Observations with the Ophthalmoscope in Morbid Changes of the Retina.*" By JABEZ HOGG. (Med. Circular, Vol. 20, Nos. 501 and 504.)
3. "*Cases in Ophthalmic Practice.*" By E. WILLIAMS, M.D., Cincinnati, Ohio. (Cincinnati Lancet and Observer, Vol. 5, No. 3.)*

1. "Although electricity is acquiring more and more repute in this country as a therapeutic agent, its employment in paralytic affections of the muscles of the eye is at present but too infrequent with us. The following case, illustrating the great benefit to be derived from its use, together with a few remarks upon the mode of application and the class of cases in which it is particularly indicated, may therefore not prove uninteresting to the medical profession at large.

"On May 15th, 1861, I was called in consultation by my friend Mr. Crosse, of Norwich, to see Mr. P., a patient of his, who had been suffering some weeks from a paralysis of the external rectus muscle of the left eye, which was soon accompanied by an evident inward squint of the same eye. The patient was a gentleman about twenty-five, of a florid, healthy complexion, but of a somewhat strumous diathesis. In the previous December, he had had measles. In March, 1861, he first complained of diplopia, and Mr. Crosse at once diagnosed paralysis of the external rectus of the left eye. This diplopia gradually increased in extent, greatly annoying and confusing the patient, who was almost incapacitated from writing, &c. The squint also became more and more apparent. During March and April, alteratives, leeches, and blisters were prescribed; in the beginning of April he commenced to take iodide of potassium. On my first seeing him, May 15th, he presented the following symptoms:

"*Movements of the Eyes.*—The movements of the right eye were normal in every direction, although they were to a very slight extent limited directly inwards and directly outwards; but this limitation was

*Having lately been engaged as Volunteer-Surgeon in the Sanitary Commission, I have been unable to make the usual notes to the Report. H.

so very slight that, *per se*, it could not be looked upon as abnormal. The movements of the left eye were perfect in every direction except directly outwards, and in the diagonal direction upwards and outwards and downwards and outwards. This eye could be moved further inwards than the right. It could be moved slightly outwards, to the extent of about three-quarters of a line. This outward movement was not due to the combined action of the superior and inferior oblique muscles, for it was not zigzag or rolling, but a continuous horizontal movement, showing that the abductor was not quite paralyzed. When both eyes were open, and the patient directed to look at an object (a lighted candle) held in the median line, at a distance of eight feet, a slight inward squint (of about one line) of the left eye was at once noticeable. This squint became greater in extent the further the candle was removed to the left of the patient; for, whilst his right eye followed it, his left lagged more and more behind, (on account of the paralysis of its abductor,) and consequently, the convergent squint must increase more and more in this direction; the double images becoming, at the same time, further apart. When the candle was moved to the right of the patient, the squint became less and less, until it completely disappeared, (as also, of course, the diplopia,) when the object was brought two and a half feet into the right half of his field of vision. Two interesting phenomena (of diagnostic importance) were noticed when the candle was held slightly to the left. First, if the right eye was then covered with the hand, the left moved slightly outward to fix the object—the covered right eye making an associated inward movement; but this movement was considerably greater in extent than the outward movement of the left eye. Second, if the patient was told to strike quickly at the candle (which was brought nearer to him for this purpose) with his hand, he invariably missed it by going to the left of it."

Diagnosis.—From the above symptoms I came to the conclusion that there was paralysis of the external rectus muscle of the left eye, with secondary contraction of the internal rectus of the same eye.

Let us now consider the cause of the affection. This appeared to be peripheral; that is, not dependent upon causes within the cranium; for there was no impairment of the mind or of the senses; his memory was good, and there was no other impairment of mobility in any other part of the body. And in the total absence of any symptom of pressure, &c., upon the sixth nerve, within the orbit, I presumed that the paralysis was most likely due to rheumatism, this being a

very frequent cause of these affections, more especially during cold and wet weather, and I therefore gave a favorable prognosis, more especially as the paralysis was not of long standing. I, however, warned the patient, that although the paralytic affection might be cured, some secondary contraction of the opponent and consequent convergent squint might remain and demand an operation.

Treatment.—As the affection had gradually progressed even under the skillful treatment of his medical attendant, I naturally looked about me for some other plan of treatment, in the hope that this might prove more successful.

As I had seen electricity very much employed in Von Graefe's clinique, in paralysis of the muscles of the eye dependent upon peripheral causes, and had seen many admirable results from its regular and prolonged employment, I determined to try its effects in this case, and am happy to say it rapidly effected a cure. The iodide of potassium was continued till June 13th, but I do not think that the favorable turn in the disease was due to the action of this remedy, which had, before the application of electricity, proved unavailing even to arrest the affection. In order to free the patient from the annoyance of the diplopia, I directed the left eye to be covered, the prisms required to unite the double images being too strong and clumsy to wear: (16° for reading, 32° for distance.)

June 30th.—I saw him again; he is greatly improved; the inward squint is reduced to about a quarter of a line; and corresponding to this, the diplopia extends only five inches (instead of two and a half feet) into the right half of the field of vision.

August 2d.—Met him in the street; not the slightest inward squint, except in looking far to the left; is not at all annoyed by diplopia, except in the same direction, but can follow his professional duties, read, write, etc., without any inconvenience. Left off electricity July 15th.

September 3d.—The mobility outwards of left eye almost normal. No convergent squint until the object (held at eight feet distance) is moved four feet into the left half of the field of vision, when diplopia arises. I wished him to resume the electricity in order that the affection might be completely cured, but he had no opportunity of doing so, and I therefore ordered him to practice the left abductor by means of a prism of 5° , with its base turned inwards.

November 12th.—The mobility outwards has increased a little more; the outer edge of the cornea can be almost brought to the outer canthus. The convergent squint and diplopia now only arise

when the object (still at eight feet distance) is brought five and a half feet into the left half of the field of vision. The patient considers himself perfectly cured. The electricity was first applied for five minutes, daily, by Mr. Crosse, and this time was gradually extended to twenty minutes. One electrode, covered with moistened sponge, was applied to the skin of the closed eye, exactly over the paralyzed muscle; the other electrode was placed on the temple. One of the rotating magneto-electric induction machines was used. Electricity certainly answered better in this case than I expected, for not only was the paralysis of the external rectus all but cured, but as this muscle increased in strength, the secondary contraction of the internal rectus was gradually overcome, and the squint disappeared; had the electricity been continued but a few weeks longer, I firmly believe the paralysis would have been completely cured; the patient, however, felt no annoyance from the slightly remaining paralysis, and therefore did not really care much about resuming the treatment. I may be met by the opinion that the iodide of potassium, and not the electricity, produced the benefit; but how is it, then, that under its use the patient got no better? As soon, however, as electricity was applied, the improvement commenced, and gradually and steadily continued. Electricity is indicated in paralytic affections of the muscles of the eye, dependent on peripheral causes; its action is especially marked in cases produced by rheumatism. In conclusion, I must warn the reader against ever using the continuous current in applying electricity to the eye, on account of its deleterious effect upon the retina; we should, therefore, always employ the extra current of an induction machine, using either a magneto-electric or volta-electric apparatus; each has its advantages: for a full consideration of which I must refer the reader to books on electricity: more particularly to Dr. Althaus' excellent work on Medical Electricity.

2. The invention of the ophthalmoscope did not escape the too frequent opposition raised against the introduction of anything like an innovation upon the established customs of our order. Like the microscope in its earliest days, it was at first regarded more in the light of a scientific toy, than that of an instrument of inestimable worth, in elucidating some of the most important diseases afflicting the human frame.

Those Fellows of the Medical Society of London who were present when, in the session of 1858, I for the first time in this country brought the instrument to their notice, must well remember the doubt expressed of its being of any real practical value. Never-

theless, in a short time, one and all of those who differed from my views have since discovered its worth; and in some instances, added to our then imperfect knowledge of the instrument. I believe it is generally admitted that by the aid of the ophthalmoscope, we are enabled to diagnose slight internal changes which were before unknown and unrecognized in any way, nay, quite impossible to make out. As an illustration of this fact, take the symptoms laid down in books and in clinical teaching of *retinitis*. We now see at a glance that no reliance whatever can be placed on the descriptions of only a very few years back. I need not say how much like guess-work must have been the treatment of such cases.

On the present occasion it is not my intention to treat of *retinitis* in all its forms, as *retinitis simplex*, *apoplectica*, *syphilitica*, and *strumous*, into which it is now divided, but rather notice one or two of those morbid changes more frequently met with and observed both in hospital and private practice. I shall first direct your attention to *hyperæmia*, and afterwards say a few words about *apoplexy* of the retina.

I have met with many cases of *hyperæmia* arising from overwork of the organ, exposure to cold and fatigue, and also from concussions produced by falls or blows, accompanied by some slight amount of cerebral disturbance. The ophthalmoscope reveals the slightest degree of effused blood, and we can watch day by day its gradual absorption, and the restoration of suspended vision. The change is usually characterized by intense redness, chiefly arising from the capillary injection over the optic disc, and a great degree of venous congestion, which rapidly produces loss of transparency in the retinal membrane or vitreous humor. When these changes are associated with capillary hæmorrhages, then I consider the case is one of *apoplexy* of the retina, and, consequently, of a more serious morbid change, often ending in total disorganization of the retina. A good example of *hyperæmia* occurred in a shepherd lately under treatment. This patient was much exposed during the cold nights, watching his flock; at the same time his food was insufficient in quality and quantity. His first annoyance arose from an inability to count his sheep; this was soon followed by more alarming symptoms, for he could no longer see them, and had great difficulty in finding his way home. There was little or no pain, and as nothing could be made out by the ordinary mode of examination, he was sent up to our hospital. The venous congestion was very considerable over the whole fundus; this, under good diet, nursing, alteratives, and tonics, entirely disappeared, and in a fortnight he was discharged perfectly cured.

Hyperæmia frequently occurs in young persons; among school-boys I have met with several cases. Master M. B., æt. twelve, a fair, delicate-looking boy, not very robust, after long fatiguing play, came home complaining of dimness of sight. Next day he was unable to read his lessons, but as there was no subjective sign indicative of any change in the eyes, his statement was discredited, and little or nothing was done for a week or more, when the boy's state became more alarming, and the medical attendant recommended the master to bring him to me. He could only see the largest of Jæger's test-types; there was great uncertainty in his walk, and an evident dragging of one leg. On examination with the ophthalmoscope, I found hyperæmia affecting both eyes. My treatment consisted in rest, alteratives, iron, and counter-irritation. I saw him again in a fortnight; he was then improving, and could read No. 12 test-types; and at the end of a month the retina was restored, and he has since remained perfectly well.

Master H., æt. nine, a delicate-looking boy, with a fair complexion, during a railway journey kept his head a good deal of out of window of the carriage; when he got home he complained of being unable to see. He tried to read, but found all the letters running into each other; he could only make out a part of very large type. Except a slight strabismus in one eye, and somewhat dilated state of the pupils, nothing could be made out of his case, and, therefore, a little opening medicine was given the first week. The boy still persisting in his first statement, his friends brought him to me. The congestion here was very considerable; under a similar kind of treatment as that adopted in the former case, he quite recovered.

I could multiply these cases, and quote numerous examples, with some slight variations, which occur among children of the poor in our out-patients' department; but, as I before observed, I chiefly desire to direct attention to a class of cases which have been quite unintelligible, and must have remained so without the aid of the ophthalmoscope.

The more serious form of disease, apoplexy of the retina, does not so frequently come under our care as that just spoken of. The ophthalmoscope, however, at once reveals to us the patches of effused blood distributed over the retina, and which frequently finds its way into the vitreous body. The most noteworthy part of our treatment in such cases, is the speedy relief of the more urgent symptoms by the division of the ciliary muscle, especially when effused blood is seen in the vitreous humor, or making its way towards the anterior chamber. The pressure on the retina is at once relieved. As an example, I

would direct your attention to the case of a soldier, whose loss of sight was occasioned by an epileptic seizure. On examination, both retinæ were covered with clots; the central vessels and optic discs hidden from view by the effused blood. An unfavorable prognosis of this patient's case was given, and before remedies could be employed, and during the same night, he had another fit, which was followed by another, and ending in coma. A good deal of attention has been paid to retinal apoplexy, and we have now made out a form frequently associated with *albuminuria*.

German writers have attempted to give us rules whereby this form of the disease may be the more readily distinguished; and I beg to lay before you their recorded observations. It is said that "retinal apoplexy arising from albuminuria may be distinguished from that produced by other causes. 1st. In apoplexy from albuminuria, the two retinæ are commonly attacked at the same time, although in a more or less degree. In apoplexy dependent on other causes, one eye alone is generally affected. 2d. In albuminuria the effusion takes place around the optic papilla, in the form of a fan, but only rarely so in other cases, where also the effusion is situated at the lower part of the retina, behind or above the papilla. 3d. In albuminuria, besides the apoplectic clots and the injection of the papilla, there is a marked muddiness of the whole central part of the retina, dependent on commencing fatty degeneration; on the contrary, when the apoplectic spots, although, perhaps, as numerous as those dependent on albuminuria, arise from another cause, the retina is transparent, even in their immediate neighborhood. 4th. In albuminuria, most of the apoplectic spots are arranged along and close to the veins, and generally behind these vessels, so as to present a linear striated appearance. In other cases, *un-connected* with renal disease, the rupture of the vessels takes place at their bifurcations, and the spot has a triangular or irregular form. 5th. A peculiar phenomenon is manifested in retinal apoplexy, from kidney disease, in the whitening of the red patches at an advanced stage of the disease. In other cases, the fluid part of the blood is absorbed, and the spot may thus become of even a deeper tint than before.

In the advanced stages of kidney disease, these appearances are well marked, and I believe have been noted by most ophthalmologists. Nevertheless, we must not expect to find these changes in all cases of albuminuria, as I shall presently show you in a few which have fallen under my own observation.

The retina is held together by a highly-developed structure of con-

nective tissue formerly believed to be nervous fibres, but not so now. In Bright's disease, it is this connective tissue which first shows fatty degeneration. In many of those cases in which the examination of the retina by the ophthalmoscope has first suggested the existence of kidney disease, at a time when there was no well-marked symptom to call attention to it, the retina shows whitish granular masses around and near the optic nerve, fatty degeneration, and numerous extravasations of blood. These changes have been confirmed by post-mortem examinations. There are other appearances to be noted, such as the formation of large granular corpuscles, with a certain swelling up of the nerve-fibres, causing them to look like ganglionic cells, and fatty degeneration and sclerosis of the choroidal vessels. I shall now relate a case or two which, as I have before stated, show some important deviations.

At the beginning of 1861, a young lady, twenty years of age, came under my care, with unmistakable symptoms of albuminuria, but at that time I failed to make out the characteristic changes in the retinae. There was some congestion of the fundus, with a slight haziness, which gave a little muddiness of appearance to it. I made out a small amount of effusion between the retina and choroid in both eyes, but the sight was not impaired thereby. As the disease advanced, vision became greatly affected, so that for ten days before death she saw with difficulty, and for the last two or three she could scarcely distinguish night from day. During the same period the œdema was very considerable, and only a very small amount of urine was passed involuntarily. No post-mortem permitted.

Another case was that of Mr. U., æt. 60. The loss of vision was wholly confined to the left eye. The kidney disease was diagnosed upwards of two years before death. When he consulted me the sight of the left eye was believed to be lost, but by a course of medical treatment he regained nearly half vision; that is, when he turned his head to the left shoulder he could see a dim outline of my face, and large objects generally. Just at the time I appeared to be effecting good, an attack of hemiplegia carried him off quite suddenly. The first symptoms of the fatal attack were pain in the head, followed by slight twitching of the face, and impediment of speech. This passed away after a few days' medical treatment, but in three or four weeks from this time another fit deprived him of the use of the left side. The amaurosis of the left eye was complete, and coma and death ensued in forty-eight hours.

I have seen several cases of symmetrical apoplexy of the retinae

where no symptom of kidney disease existed. A case in point was reported in the pages of a contemporary (the *Medical Times*) last year. In this case there was partial paralysis of the left side, preceded by head symptoms, which were persistent. The urine was carefully examined, but was perfectly normal. Unfortunately, the pupils were dilated by atropine before their condition was noted. The ophthalmoscope showed a small apoplectic effusion just below the yellow spot in each eye. The above case supplies us with an interesting example of symmetrical extravasation of blood from the retinal vessels occurring with other symptoms of disturbed cerebral circulation. The following note is appended to this case:

"From these cases it appears there are two groups of cases in which retinal apoplexies are observed. In one, the effusions take place in connection with albuminuria, and are, perhaps, quite as nearly allied to purpuric ecchymoses as to those forms of hæmorrhages usually designated as apoplexies, and occurring in patients of all ages. In the other group, the retinal affection occurs coincidently with other indications of cerebral disturbance in elderly people chiefly, and without any abnormal state of the kidneys coexisting. In these it is in all probability dependent upon disease of the coats of the vessels, and the rupture, no doubt, occurs during a temporary congestion of the whole cerebral system, the pressure of which the weakened vessels of the retina are unable to sustain."

I now desire to direct your attention to the value of the ophthalmoscope in the detection of albuminuria in cases where the kidney disease was not before suspected. I select a couple of the more recent cases from our Hospital Case-Book.

Daniel F., æt. forty, admitted August 30th, 1861, a gas-fitter, complains of defective sight in both eyes; has been rather a free liver, and more than once under the influence of lead-poison. About two years ago had swelling of the legs, but as no inconvenience arose therefrom, no notice was taken of it; was not aware whether he passed a small quantity of urine. About three months since he suffered a good deal with headache, and had frequent calls to pass his water during the night; the legs again swelling; now decidedly œdematous; a slight pain in loins, but not enough to complain of; urine small in quantity, and of low specific gravity; pupils normal.

Ophthalmoscopic Examination.—Apoplectic spots distributed over fundus, but more thickly about the optic discs, the left eye more than the right; interspersed throughout can be seen whitish patches having a granular appearance, and highly refractive: pronounced to be

fatty degeneration of retina. It must be observed that examination of the eyes led to the question of the condition of the urine, and decided the course of treatment, which consisted in the administration of pulv. jalapæ co., and the use of the preparations of iron. The patient recovered in about two months after the date of admission.

John W., æt. twenty-six, plumber, admitted September 5, 1861; always had good health and sight; about ten months ago received a blow over left eye, and shortly after dimness of sight commenced; this chiefly annoyed him towards night. The right eye, three months ago, also became affected, when he applied to a medical man, who leeches and blistered him; but his sight continuing to get worse, he applied to the Royal Westminster Ophthalmic Hospital. The eyeballs rather harder than normal, and pupils somewhat dilated, and inactive; with the right eye he can count fingers, and put his finger upon the largest test-types; with the left the fingers and largest types appear to be black patches. The fundus in each eye, especially about the optic discs, covered with hæmorrhagic spots and white patches; veins remarkably turgid, and dark in color. I then examined his urine, which was of a low specific gravity, and albuminous; found his legs slightly œdematous, and other evidences of albuminuria.

To relieve the intra-ocular pressure and turgidity of the circulation, I divided the ciliary muscle in both eyes; on the third day from the operation, the vision was greatly improved. I then put him under a similar plan of treatment to that adopted in the former case, combining small doses of hyd. c. creta with the pulv. jalap. co. On the 12th he was able to go about the hospital, and in about three weeks was discharged; before leaving he could see Nos. 10 and 12 test-types.

Other cases of retinal apoplexies have been equally benefited by division of the ciliary muscle. I will not venture an explanation of this operation just now, contenting myself with stating the fact, that other surgeons may try it for themselves.

Dr. R. Liebreich relates an interesting case of retinal apoplexy associated with Bright's disease, in the *Archiv für Ophthalmologie*, 1859. He gives, likewise, a summary of the diagnostic appearances to be looked for. He writes: "It commences with retinal hyperæmia, the veins being fuller and more tortuous, becoming dark-red, and sharply outlined, or covered with a slightly dulled retina. Blood, frequently in the form of radiating streaks, is deposited between the nerve-fibres, sometimes as oval or round spots, which still more obscures the vessels and fundus. The optic disc is ill-defined, appearing

faintly under the effused blood. Small white, round, elevated spots are subsequently seen in different parts of the fundus oculi; these increase in number around the optic disc; there is, however, a grayish part of the retina left, somewhat circular in form, and rather larger than the optic disc. From its periphery a thick, milk-white layer of granule-cells is deposited, and continued along the course of the larger vessels. Later, changes take place in the retina on the edges of the layer; the granule-cells do not appear in large white spots which have coalesced, but as groups of smaller ones, which arrange themselves peculiarly in the form of rays, while the middle of the macula lutea appears dark-red, contrasting with the white patches which surround it. In the normal parts of the retina, small ecchymoses soon take place, and more extensive extravasations cover a great part of the layers of fat, and transform the whole into a dark-red surface, or the retina becomes detached in its normal parts."

Virchow regards the white patches of fatty degeneration described as enlargements of the ganglia-cells, and not hypertrophy caused by fatty degeneration. Further microscopical research will alone decide this point; in the mean time, when such appearances present themselves to the eye, we shall be led to look closely after the heart and kidneys.

3. CASE I.—*Trauma of the Eye—Tetanus*.—W. M., a stout laborer, 30 years of age, was injured in the right eye while hammering upon a steamboat boiler, on the 4th of April last. His sight was instantly annulled, and he called to consult me the same afternoon. There was a ragged, irregular wound in the edge of the right lower eyelid, just external to the punctum, and one in the ball of the eye also. The latter wound, about three lines in length, was situated at the inner and lower part of the globe, one-third of it in the sclerotic and two-thirds in the cornea. The iris and corpus ciliare were divided to the same extent, the anterior chamber effaced, the ball soft and partly filled with blood—from all of which I inferred the presence of a large foreign body in the eye. Convinced of this fact, I urged an immediate operation for its removal. Unfortunately, the patient did not agree with me in my *diagnosis*. As he was hammering when wounded on the large round end of a copper rivet, he believed that was what struck him, and it could not be in the eye. He felt very little pain, and only wanted some *drops* put in the eye to *restore the sight*. I pressed upon him the certainty that the eye was lost, that it would pain him excessively, and not only endanger the sight of the other, but even imperil his life. Still he refused to have anything done at

all, unless I would promise to restore his sight. He left my office, and I heard nothing more of him for three days, when he sent for me to call and see him. He was then suffering extreme pain in the circumorbital region—the eye was intensely inflamed, with phlegmonous chemosis, haziness of the cornea, turbidness of the aqueous humor and crystalline lens, and much swelling of the lids. He still refused an operation, and persisted in believing there was nothing in his eye, because the pain was most severe in the surrounding parts of the face and head. I treated him, but under protest, with antiphlogistics and large doses of morphine at night. His sufferings continued most intense till the 24th of April, three weeks from the time of the accident, when his agony became so great that he yielded to my proposition to remove the eye. Assisted by Dr. Nat. Foster and my private student, I proceeded to extirpate the organ by the method of enucleation. In consequence of violent muscular contractions and symptoms of asphyxia produced by the chloroform, which was suspended several times and then renewed with the same results, I operated without complete narcotism. The struggling of the patient and the great swelling of the parts made the operation difficult. During this time the original wound opened, and there escaped considerable pus from the interior of the eye. I then put one blade of the forceps through the wound, got a firm hold upon the sclerotic, and succeeded in the removal. I put a small sponge into the cavity, applied cold-water dressings, and administered half a grain of morphine. The following night he rested well, and the case progressed favorably till the evening of the 27th, three days after the operation, when he began to experience some rigidity about the muscles of the jaw and difficulty in swallowing. The following morning all the muscles on the right side of his face were perfectly inactive and flabby, while those on the opposite side were rigidly contracted, giving the patient the peculiar physiognomy of facial paralysis. He could still open the mouth about half an inch and swallow, but with labor. The tetanic contraction invaded successively the muscles of the neck, chest, abdomen and limbs; and he died on the morning of the 5th of May, one month after the accident, ten days after the operation, and seven days after the tetanus set in.

On inspecting the eye, I found the retina destroyed by the suppuration, excepting a small floating portion around the optic entrance—choroid thickened and friable from the presence of lymph in its tissue—iris discolored, swollen, and pushed forward against the cornea; pupil closed by a plug of yellowish lymph; lens turbid, very soft, and

much diminished in size. Behind the iris, and moulded to its posterior surface and the inner surface of the corpus ciliare, was a mass of lymph, yellowish in color, pretty firmly adherent to the surfaces from which it had exuded, and filling up nearly the anterior half of the cavity of the eye. This mass of lymph, permeated with numerous pus-globules, was thickest and extended farthest back at the outer side of the eye, where I found just back of the equator a large scale of iron sticking firmly in the sclerotic. It was, by actual measurement, half an inch long, one-quarter of an inch wide, and a little thicker than ordinary foolscap paper. Its surfaces were smooth, but the edges rough and irregularly serrated. Near the middle of its length were two corresponding notches, one on either side, in which it was firmly embraced by the sclerotic coat, one-half projecting into the orbit and the other into the eye. It had passed through the globe and half way out on the opposite side. In this position the offending body was held so firmly that I had to enlarge the wound in the sclerotic with the scissors, in order to extricate it.

From the beginning I had observed that the eyeball moved very little, but its fixity was attributed to exudation in the ocular sheath, rather than to the possibility that it might be *spitted* by the foreign body. The severe character of the wound and the long sojourn of so large and rough a body in the eye no doubt gave rise to the fatal tetanus. It is not at all likely that the operation either gave rise to or hastened the tetanic spasms. Indeed, it is most probable they would have occurred sooner if the patient's intense sufferings had not been relieved by the extirpation. Had he submitted to the removal of the eye or to partial extirpation and the extraction of the foreign body immediately, or within a few days even, after the injury, he would most assuredly have escaped with his life.

The possibility of the supervention of tetanus in cases of injury by a large and rough foreign body which remains in the eye, should be urged as an additional necessity for surgical interference. In such cases the vision is inevitably destroyed, the globe will atrophy after months of suffering, which greatly endangers the sight of the other eye. Even after atrophy, the pain and risk of destructive sympathetic inflammation of the well organ do not often disappear so long as the exciting cause remains. There is, therefore, everything to be gained by an early operation, and nothing but disaster to be expected from delay, except the mere possibility that the foreign body may become encysted and remain harmless. Even when encapsuled, the body may be detached by accident years afterwards, and give rise to

destructive inflammation. Instances of this kind are recorded; and I have seen one lately where a piece of percussion cap, after remaining some two years encysted in the iris, was dislodged by an accidental thrust of the patient's finger. It was small, and moved about freely in the anterior chamber, always concealed in the most dependent part, in the sulcus between the periphery of the iris and margin of the opaque sclerotic, which extends farther forward than the point of attachment of the iris. It only came into view when the head was inclined so far forwards as to cause it to slide along the concave surface of the cornea towards its centre. The eye was constantly injected, somewhat painful, and the sight impaired. The patient was not inclined to have it operated unless I was *perfectly sure* of the successful removal of the foreign body. He returned home to the country, and I have since heard that his eye is still painful and the vision getting worse. Mr. Nunneley has published a case in the *Ophthalmic Hospital Reports*, vol. ii., page 244, where a piece of stone coal remained thus encysted in the eye for ten years, when the patient was struck violently on the side of the head, the fragment dislodged by the concussion into the anterior chamber, where it caused much inflammation, and from whence it was removed by Mr. N.

The rarity of tetanus from injuries of the eye may be inferred from the fact that W. White Cooper, in his treatise on wounds of the eye, is unable to refer to but two cases—one which occurred in St. George's Hospital in 1847, from a rupture of the cornea by the end of a whip-lash; the other during the Crimean war, from the explosion of a shell, which drove a large fragment of stone and several pieces of gravel into the orbit. The bony orbit was fractured extensively, "the sclerotic coat of the eye torn open, and much gravel imbedded in its interior, and some fragments had been forced into the substance of the optic nerve."

The largest foreign body I have ever removed from the interior of the eye was a rough piece of cast-iron, nine-sixteenths of an inch long, five-sixteenths wide, and two-sixteenths thick. It had entered through the cornea and iris, and lodged deep in the vitreous humor, where it had remained two weeks, giving rise to terrific pains. I amputated the anterior part of the globe, including the iris and corpus ciliare, and extracted it with the forceps.

CASE II.—*Piece of Cap in the Vitreous Cavity—Extirpation.*—T. H., aged about 17, had been injured by a piece of cap two months before he consulted me. It had entered about midway between the centre and external margin of the cornea, and passed through the iris

into the back part of the eye. When I first saw him there was great pain in the eye and neighboring parts of the face, pupil closed by a false membrane, iris discolored, and anterior chamber about one-third filled with pus. I made a paracentesis of the cornea with some relief to the pain for a few days, and the hypopyum was partly absorbed. The irritation again returned, the hypopyum increased, and I then made an iridectomy inwards, which was followed by decided improvement in the general appearance of the eye. About three weeks after this operation, the same symptoms returned, attended by the appearance of muscæ volitantes, flashes of light, photophobia, a dilated, oscillating pupil, and indistinctness of vision in the previously well eye. As the danger from sympathetic inflammation was imminent, I did not hesitate to enucleate the offending organ. The patient soon recovered from the operation, and the sight of the threatened eye gradually returned to its former perfection.

Dissection of the Eye.—I cut carefully through the sclerotic about two and a half lines from the entrance of the optic nerve, when there escaped several drops of reddish-yellow serous fluid which had been thrown out between the choroid and retina, detaching the latter membrane in the shape of a funnel, the small end adhering around the optic papilla and the large at the ora serrata retinae. The floating retina was thrown into numerous folds running from before backwards, and so opaque that I could not see through it into the vitreous fluid. On opening the detached retinal pouch at the back part, I found the shrunken vitreous humor of a light straw-colored tinge, but with nearly its natural consistence and transparency. Projecting into that fluid from the corpus ciliare at the external side of the eye, I discovered a globular yellow mass of about the size of a large pea. On removing the vitreous humor carefully from behind forwards, I found it was an abscess adhering to the inner surface of the corpus ciliare and choroid, the retina for a short distance back of it being agglutinated to the choroid.

When I touched the delicate membranous sac with the point of a knife, several drops of liquid pus escaped, and in the interior of the abscess I found a square piece of cap of about the size of a small pin's head. Adhering to the internal surface of the ciliary body at the seat of the abscess, and extending forwards over the entire posterior surface of the iris, was a thick layer of yellowish lymph, which blocked up the pupil as well as the artificial opening made by the iridectomy, and agglutinated the whole iris with the capsule of the lens. The lens was diminished in size, of a light amber tinge, and quite soft.

The healing process was soon accomplished, and the patient now wears an artificial eye. The photophobia, luminous flashes and misty vision of the left eye, although immediately diminished, did not entirely disappear for six or eight weeks after the operation, when the vision was restored to its former perfection. Extirpation, partial or complete, of the painful and disorganized eye, affords the only prompt and almost certain means of rescuing the other when it is threatened with destructive inflammation. If not deferred till the retina and choroid have suffered incurable textural changes, the operation, especially in traumatic cases, nearly always affords immediate and permanent relief. The improvement in the patient just detailed, although satisfactory in the end, was much slower than usual. I have operated a large number of times where the other eye was in great peril, and have not failed in a single instance in saving the sight. In former numbers of this journal I have published several of these cases with remarks, to which I can only refer at this time. A few months ago I removed an eye that had been destroyed by a piece of cap two years before, during all of which time the patient had been unable to read or do any kind of work in consequence of the constant irritation and neuralgic pains in the eye and head. The sight of the other was much impaired, but in *two weeks* he went to work, and is now well and enjoying perfect sight. I found the foreign body imbedded in a mass of lymph behind the lens.

But five days ago I amputated the anterior part of the globe, including a narrow zone of the sclerotic, and with it the iris and larger portion of the corpus ciliare, in a young man who had been suffering from constant inflammation of the eye, with great pain and repeated attacks of hypopyum for three months. When I saw him first, three weeks ago, his eye was highly injected, with closure of the pupil, anterior synechia at the seat of a small cicatrix in the cornea, and a considerable quantity of pus and lymph in the bottom of the anterior chamber. He stated that his eye had been injured by a corn-blade some two months previously. He had jumped out of a wagon in a corn-field, and felt a sudden hurting in his eye when he struck the ground, but did not remember feeling a corn-blade or anything hit his eye at that time. I administered purgatives, anodynes at night, and sulphate of atropia locally. He improved for some days, when the hypopyum increased from a discharge of viscid yellowish lymph which flowed slowly from the upper margin of the iris down its anterior surface into the bottom of the chamber. In a short time this began to diminish, and in the course of two days was all absorbed. Still

the soreness, injection and tenderness to the light continued. In conversation with him one day he remembered that he had shot a pistol a few hours before the time when he jumped out of the wagon, and at the moment of the discharge he felt something hit the eye, saw a flash, and felt the tears suddenly run down his cheek. It hurt but an instant, and did not seem to affect his sight—so he had entirely forgotten it till it was suggested by a remark I made about the frequency of injuries from this source.

The persistence of the inflammation and frequent recurrence of the hypopyum in cases of injury, indicate usually that there is suppuration in the vitreous cavity also, and that a foreign body is in the eye. This fact, taken in connection with the patient's history of the pistol-discharge, led me to infer that the eye had been wounded by a fragment of cap which had entered, and still remained, perhaps, in the vitreous cavity. The painful organ had begun to atrophy, and the other was weak and tender to the light. So I resolved to operate and relieve him at once of the persistent pain and the danger to the sight. The patient was chloroformed, and I removed the anterior sensitive part of the globe as in the last case referred to above. The lens and part of the vitreous fluid were discharged, with several irregular masses of yellow lymph that adhered to the anterior part of the choroid. Downwards and inwards in the vitreous humor, I saw a round yellow mass, and seizing it with the forceps, I found it was an abscess, and a few drops of pure fluid pus escaped from it. I found no foreign body, however, but am disposed to think it was surrounded by this abscess, and either escaped with the pus unperceived, or still remains in the sclerotic cup. It may escape with the suppuration, if it is still in the eye, or remain harmless in the stump after the wound heals. In several instances where I have operated by partial amputation of the eye, when it was suspected that there was a foreign substance in it, none has been found—yet all of them were effectually relieved. The patient is already much better, and I have little doubt but that the result will be complete. The large amount of yellow lymph and the distinct abscess found in the vitreous humor confirmed my diagnosis that the eye was hopelessly lost, and fully justified the apparently severe procedure adopted in this case.

The presence of a *veritable encysted abscess* in the vitreous humor adherent to the inner surface of the choroid, (from which membrane no doubt the pus was formed,) which was discovered in this case and in the first one detailed in this paper, is an interesting fact, and one that does not seem to have attracted much attention from most of

writers on this subject. In severe traumatic inflammation of the eye, especially where a foreign body has passed into it and remains there, the whole or a large part of the vitreous cavity is often filled with lymph rendered yellow by pus-globules intermingled with it. But genuine abscess in the vitreous humor is comparatively rare.

The enormous amount of yellow lymph effused in the bottom of the eye where a shot, piece of cap, scale of iron or other foreign substance has penetrated far into that organ, may be judged of from the yellowish reflection seen deep behind the pupil, when the latter remains open and the lens transparent. Every oculist of any experience has often been struck by the remarkable appearance of the depths of the eye under such circumstances.

Why I prefer *partial amputation* to *extirpation* of the globe, in most cases where surgical interference for the relief of pain and the salvation of the other eye is demanded, I have stated in a former paper, published in this journal.

The pathological anatomy of the eye has been very materially advanced by the careful dissections and microscopical examinations of diseased globes removed for the protection of the remaining useful but menaced organ, since this has become an established practice among nearly all ophthalmic surgeons. Some excellent articles have recently been published in the *Archiv für Ophthalmologie*, on the formation of pus in the vitreous cavity after injuries, depression of cataract and suppurative choroiditis from other causes. Although we call the disease suppurative panophthalmitis, by far the largest portion of the exudation is lymph, with pus-globules disseminated through it, and giving the mass a yellow color. Sometimes, however, as I have stated, the pus element predominates, and we have the eye filled with fluid pus, or else distinct abscesses in the vitreous humor.

REVIEWS AND BIBLIOGRAPHY.

A Practical Guide to the Study of the Diseases of the Eye; their Medical and Surgical Treatment. By HENRY W. WILLIAMS, M.D., etc. Boston: Ticknor & Fields. Philadelphia: J. B. Lippincott & Co., and Lindsay & Blakiston. 1862. 8vo, pp. 317.

In this *ophthalmic age* of medicine and surgery, the advances made by the leaders are so great, and the researches so profound, that unless one has peculiar opportunities and rare talent, he fails to appre-

ciate the theories, writings, and treatment of diseases of the eye and its appendages, as set forth by modern writers and teachers of ophthalmology.

Doctor Williams, of Boston, in the Preface of the above work, states that "he has endeavored to supply a want which his relations with junior practitioners and students have shown him to exist." * * * "But he would not have assumed his task except from a desire to fulfill the duty which he believes to be incumbent on every physician, of adding something, if possible, to the stock of knowledge which it is the glory of our profession to regard as the common property of all its members. He has hoped to do this, by promulgating new and original views, which he deems highly important, upon certain of the subjects considered in this treatise, and by facilitating, by simplified classification, the study of what at first sight seem to be the intricate and complicated phenomena of diseases of the organ of vision."

The author has undertaken a difficult task—viz., that of writing a useful book on diseases which, as a class, are complicated, and of telling the profession, in a clear style, much about common affections, while referring only cursorily to the diseases which more rarely attack the eye. Our own settled opinion is, that if he had written a book on the anatomy and pathology of the eye and its appendages, (proofs of the incomplete knowledge of which we meet with every day,) he would have rendered a greater service to the profession in general, and to *students* in particular. "A little knowledge is a dangerous thing" in the anatomy and pathology of the eye. And there can be no evading the conviction, that the doctor who does not know *certainly*, as *one can*, about a disease of the eye under his charge, is guilty of imprudence at least, if he continue to treat the same without consultation.

Physicians who read Dr. Williams' book will appreciate that they have much to learn, and when they are in doubt, will do well to call in additional counsel early.

It is useless to mention at length any views we entertain at variance with those of Dr. Williams. Specialists are prone to have hobbies, but it seems strange that Dr. W. should give such a wide berth to nitrate of silver, when men of vast experience extol its virtues, although they do not by any means eschew the sulphate of copper.

Our own experience teaches us that no *one* remedy can be used advantageously for a long period. There are cases in which we believe the use of the pure arg. nit. in stick is indispensable; but, as a

general rule, we prefer the weak solutions. We have long made crayons of sulphate of copper, by *sawing* the large masses into square sticks, and then rounding them with coarse sand-paper, and smoothing them with a wet cloth. (See page 19 of Dr. W's book.)

The work is practical in its character, and shows to us that Dr. W. could have written one much more complete, and consequently more creditable to American medical literature. He has, however, accomplished all he proposed to do, and his book will become a *Manual of Ophthalmic Diseases* in our medical colleges.

We cannot omit remarking, that the paper and typography are superb. It merits a calf binding, and would command the necessary increase of price.

We commend it to the profession and students of medicine.

W. F. H.

Advice to a Mother on the Management of her Offspring. By PYE HENRY CHAVASSE, Fellow of the Royal College of Surgeons of England; formerly President of Queen's College Medico-Chirurgical Society, Birmingham; Author of "Advice to a Wife on the Management of her own Health." "*Lo, children and the fruit of the womb are an heritage and gift that cometh of the Lord.*" Reprinted from the Sixth London Edition. New York: Baillière Brothers, Publishers, 440 Broadway. 1862. 12mo, pp. 172.

Verily, "the more well-written books on 'common things' are circulated among the reading classes of the community, the more extensive will be the diffusion of a strong antidote against the power of spurious and vain knowledge." The necessity and good effects of making mothers acquainted with the rational management of children are not only obvious, but have probably been impressed on his mind by the experience of every practitioner. To write a popular book on this subject, satisfying the just demands of the medical critic, is a more difficult task than any one can readily believe that has not tried something of the kind. Although almost all the medical books for the people actually published are written by the mediocre in the profession, and still worse; the most gifted and learned should in reality find such tasks amply suitable to call forth the exercise of their best faculties. The author of the little work before us, in answer to the self-imposed preliminary query, "I wish to consult you on many subjects appertaining to the management of children: will you favor me with your advice and counsel?" lays down the following as his plan:

"I shall be happy to accede to your request, and to give you the

fruits of my experience in the clearest manner I am able, and in the simplest language I can find—freed from all technicalities. I will endeavor to guide you in the management of the health of your children; I will warn you of approaching danger, in order that you may promptly apply for medical assistance, before illness has gained too firm a footing; I will instruct you in the *immediate* employment of remedies in case of accidents—where delay may be death; I will tell you how a sick child should be nursed, and how a sick-room should be managed; I will use my best energy to banish injurious practices from the nursery; I will treat of the means to prevent disease, where it is possible; I will show you the way to preserve the health of the healthy, and how to strengthen the delicate; and I will strive to make a medical man's task more agreeable to himself and more beneficial to his patient, by dispelling errors and prejudices, and by proving the importance of your *strictly* adhering to his rules. If I can accomplish any of these objects, I shall be amply repaid by the knowledge that I have been of some little service to the rising generation."

He then goes through 306 questions and answers, disposed of under the three headings Infancy, Childhood, and Youth, detailing for each of these ages the proper ablution, clothing, diet, air, exercise, sleep, prevention of disease, etc., etc., etc. The form and manner throughout are unexceptionable. In the matter of the matter we would here and there make slight alterations; but on the whole, the advice is so sensible and apropos, that we have already caused one of our "very best" mother-patients to buy the book; shall gladly recommend others to "follow suit;" shall freely circulate our copy among those unable to procure it for themselves; and, finally, unhesitatingly advise our readers to do in this respect what we have done and intend to do.

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Is Tracheotomy in True Croup a Justifiable Operation? By JOHN O'REILLY, M.D., Licentiate and Fellow of the Royal College of Surgeons in Ireland; Resident Fellow of the New York Academy of Medicine; Member of the Medico-Chirurgical College of New York. Hall, Clayton & Medole, Printers, 46 Pine Street, New York. 1862. 8vo, pp. 21.

The author has lately become pretty extensively known as a prolific pamphlet writer. He now thinks "the great ability, learning, research, ingenuity and plausibility displayed by the advocates of the revival of the (almost exploded) operation of tracheotomy in croup,

demand sober reflection as well as strict investigation, inasmuch as the character of the Academy might possibly be placed in jeopardy for sound judgment and discrimination, by recommending or endorsing a practice which future experience might demonstrate and prove to be erroneous and uncalled for, as well as derogatory to scientific operative surgery;" and "for these reasons, as a member of the Surgical Section, I am compelled," he says, "to protest most earnestly against the operation of tracheotomy in true croup."

"I am satisfied (it may be presumptuous to say so) that no person up to the present period, with the exception of myself, has attempted to give a rational idea of the *modus operandi* of medicines in the treatment of disease." [!] He kills two birds with one stone, which "not only overthrows the arguments of the surgeons who so strenuously recommend bronchotomy, but which further overthrows the theory of the modern physiologists who insist and teach that the blood is aerified by the process of *endosmose* and *exosmose*, or the soaking in of oxygen and the soaking out of carbon."

"The diagnosis between true croup and secondary croup should be the great object of the physician and surgeon in the first instance, with a view to giving a true prognosis, and equally with a view to the proper medical and surgical treatment to be pursued."

"The advocates of the operation of tracheotomy in croup do not seem to recognize that there is any degree of importance to be attached to the circumstance as to whether the case that comes under notice or requires the operation, in their minds, is one of *true* or *false* croup.

"The statistics afford no information on this point, and the operators certainly do not appear to be impressed with the necessity of making the distinction. It will, indeed, be admitted that there are several cases of secondary croup where a surgeon may be called on to perform the operation, and hence his reputation will be at stake unless he is able to make a correct diagnosis between *true* and *false* croup.

"The great and fundamental distinction between primary and secondary croup consists in the mode of secretion of the false membrane. In secondary croup, the trachea can be opened below the false membrane, as demonstrated by Rillet and Barthez; whilst in true croup, the operation must be performed above the false membrane. In the former case, there is a fair prospect of success, whilst in the latter there is none."

"I have further to protest against the operation of tracheotomy in true croup, on the following grounds:

"*Firstly.* That the operation cannot be productive of advantage, inasmuch as the air cannot be brought in contact with the sound part of the lungs in consequence of the diseased action of the organic glands, which have thrown out a false membrane in the trachea and bronchi, and a similar substance to the false membrane in the air-cells, which thus *throws up a blockade against the contact of the air with the pulmonary glands.*

"*Secondly.* That there is *prima facie* evidence that the operation is useless, inasmuch as the patient dies *after the operation* at certain intervals, as before stated.

"*Thirdly.* That it is well established, that in cases suitable for the operation of tracheotomy, such as foreign bodies in the trachea, idiopathic or specific laryngitis, secondary croup, there is very little danger to be apprehended from the operation; it therefore follows that the great mortality attendant on the operation for true croup must be the consequence of some other difficulty in addition to the impediment presented by the false membrane to the entrance of air into the lungs: the truth is, the patient dies from exhaustion of the organic nervous system and want of oxygen, when death takes place after the operation."

We have thus, by quoting what seem to us the best and most intelligible portions of his essay, certainly fairly stated Dr. O'Reilly's views, and at the same time, also, we trust, in a manner to enable the intelligent reader to appreciate them. The pamphlet before us contains a number of citations mixed up with assertions, some of them "original," others not; some well known and true, some unsupported and unproved, mostly entirely irrelevant to the only question at issue. Several times the author falls into the fallacy of drawing absolute and positive conclusions from conditional and guarded premises; of one "explanation," even he himself "cannot help asking" whether it is "so incomprehensible, so far-fetched, so unfounded, so utopian, so original, as to baffle the understanding, to create an irresistible incredulity in the mind, to present an insoluble enigma to the intellect or hidden mystery to mankind?" This query he answers with "Certainly not;" and so forth. Every man *should know himself*, and whoever reads this pamphlet, be he physician or layman, will not be left in doubt as to the author's opinion of himself. In diction he is sometimes quite unfortunate; the rules of syntax are ignored, and his expressions involved. In some cases his meaning can be made out well

enough, though, with strict grammatical construction, the language conveys something entirely different; for example—and we instance the first that happens to strike us at this moment—we are told, at p. 13, that it is well known that “calomel not only prevents, but causes, the absorption of lymph,” and the like.

Dr. O'R's concluding paragraph reads thus: “As an apology for the crude manner in which this paper is written, want of time prevents me from doing the subject proper justice. I need scarcely say, I disclaim being influenced by any motive, in endeavoring to overthrow the opinions of the learned gentlemen who preceded me, except the anxious desire to promote the good of the community, and the honor, dignity, and usefulness of the profession, and to demonstrate that the revival of bronchotomy by Bretonneau should not be upheld, practiced or sanctioned by the Fellows of the Academy of Medicine of New York.”

We presume it is unnecessary for us at this time to assure the readers of the MONTHLY that, in categorically answering the question proposed, we entirely and totally disagree with the author. We would express our belief, however, that at the bedside his practically plastic mind would cause him to agree with us in every case really requiring the operation. Tracheotomy in croup never was, is, or can be, the immediate *refugium*, or, in itself, remedy proper, but it meets a most, if not the most, life-threatening symptom—danger of suffocation. No one, unbiased, can, after properly informing himself on the subject, entirely reject it. Not only IS *Tracheotomy in True Croup a Justifiable Operation*, but, under circumstances, the question may, more seriously too, arise, Is it not unjustifiable to refuse or neglect to perform it? *

The American Journal of Ophthalmology. JULIUS HOMBERGER, M.D., Editor and Proprietor. New York, July, 1862. Baillière Brothers, Publishers. Vol. I., No. 1, pp. 48.

Agassiz said lately, “The college that has at last given a chair to a specialist has certainly taken a long step in advance. I hardly expected ever to see it in this country.”

The learned Cambridge Professor knows full well that it is next to impossible for any man to know much of *every* department of science; but that almost any mind is fitted for, and can become thoroughly informed in, some one branch of science or art. Those distinguished in

the European medical world have gained their reputation in special departments.

American doctors must perfect themselves in special branches if they would attain the highest excellence. It has been already proved that the prejudices, bitter as they are against those who devote themselves to a particular branch of the profession, are not insuperable, and specialists can point to names illustrious at home and abroad, as well as to results which could only be obtained by thorough and practical scientific knowledge. We are glad to note every indication of progress, and cordially welcome the appearance of a journal devoted to a *specialty*. The *American Journal of Ophthalmology* is published for the purpose of disseminating knowledge of, and eliciting contributions on, ophthalmic diseases. The Editor deserves credit for his enterprise, and his undertaking is one that should succeed, if conducted in the right spirit. The first number contains much that is valuable to practitioners who do not read German medical literature. For those who can, there is little that is new. Translations and reviews like these of European journals are of the greatest value to our profession in America, as but few can consult the original.

The Editor's proof of the ignorance of the "medical profession in general" in America (see note appended to page 13) concerning strabismus and the method of curing it, is perhaps irrefragable. Let us give him a fair field to prove his assertions, submitting in a teachable spirit, and hoping we may one day have our eyes open to the truth as "known since years in the *centres* of medical knowledge in Europe." He apologizes for "lack of elegance of *diction*," in consequence of "the difficulties of the English language for a foreigner." We would suggest that a further acquaintance with the language will convince him that the *coining* of new words, or Anglicizing foreign ones, is as unnecessary as it is inadmissible in a correct style.

We have reason to believe that the Editor's chief desire is to advance ophthalmic science in America. But we must say that many of his phrases will be entirely unintelligible to very many, on account of unknown and foreign words with which they are clothed. Many able physicians will not understand "Loupe," "Plaque," "Scales of Jäger," "c. c. a. inches," "*Pincette à ressort*," "Operation à deux temps," "Aphakia," "Embolus," "Therapy," "18-20 threads $\frac{1}{2}$ mm," "Anemnesis," "Fascicle," while their English equivalents fully convey their meaning.

We find no notice in the Journal whether its appearance will be

weekly, monthly, or semi-annually. We trust, if we miss the "brilliant original contributions," we may find copious reports of the *actual* experience of American practitioners in succeeding issues, and also that the profession will contribute liberally to the subscription list of the *American Journal of Ophthalmology*.

W. F. H.

Is the Produce of Diseased Animals Unwholesome as Human Food?

Being a Communication read before the Metropolitan Association of the Medical Officers of Health on the 16th of April. By JOHN GAMGEE, Principal of the New Veterinary College, Edinburgh.

In undertaking to collect information from all sources on the innocuous or unwholesome character of meat and milk of animals affected with disease, or dying from unnatural causes, I was aware from the first how very difficult it was to condense, in a connected form, and to draw satisfactory conclusions from fragmentary notes scattered throughout medical and veterinary treatises, journals, &c., which have been published from ancient times to the present day. I do not presume, and, indeed, have not attempted, to write an exhaustive essay, but rather to classify the knowledge it has been in my power to obtain, either from personal observation, or from my readings, during the last dozen years. We are very much in the same position as to facts concerning animal food, as a cause of human disease, as we were fifty years ago, or perhaps not more than twenty-five, in relation to impure air and water. It was known that people might be suffocated in a room in which they inclosed themselves to breathe the fumes of charcoal, and that human beings might be so packed as to die within a few hours from suffocation. Alarming facts were occasionally obtained of a death or deaths from foul air, but no one suspected that epidemic diseases and contagious fevers were constantly induced by over-crowding, deficient systems of ventilation, drainage, &c. It is found that the physician in active practice cannot, however careful he may be, trace each individual case to its true source. Much more is done in this direction at the present time than formerly, but the cultivators of sanitary science—the students of etiology, who aim entirely at prevention, rather than relieving and curing the diseased—have demonstrated that we must study the influence of causes *per se*, and not attempt, from an observation of effects, to determine at once how they have been induced. The history of parasitic diseases, so much enriched by the observations of zoologists during the last ten or fifteen years, demonstrates how impossible it is to adhere to the old exclusive method of studying medicine by clinical observations alone. It is with veterinary as with human medical science. We have arrived at a period when there is no limit to the studies we may engage in, with a view to obtain a complete knowledge regarding the laws which govern the origin and development of disease. It is the spirit of universal observation which must be encouraged amongst pathologists; and I have

ventured to select a subject for special comment which offers a wide and untouched field for original investigation. We can refer to violent attacks of dysentery, to malignant pustule, mysterious and fearfully sudden deaths, resulting from the consumption of impure animal food; but we know not to what extent and in what way it aids in constantly raising human mortality; what percentage of deaths, if any, must be annually attributed to the constant and unchecked traffic in the carcasses of diseased animals, or the milk of foully-kept or diseased cows. My conviction is so strong, that of all food adulterations, none operate so constantly and fatally as the deteriorations of animal produce, from the causes hereafter to be noted, that I have for some years aimed at exposing the danger of infamous practices, which have assumed the form of a regular and legitimate trade, resulting from the unfortunate prevalence, especially within the last twenty-three years, of contagious cattle plagues in the British dominions.

It is an old practice, in remote agricultural districts, to save the flesh of animals dying suddenly, by bleeding before signs of life have entirely passed away. But when pleuro-pneumonia spread throughout Britain, it created great alarm. Veterinarians were consulted; they failed in curing the disease; farmers and cowkeepers were often ruined; many adopted the practice of calling in professional aid until a change of system or bankruptcy proved the only alternative. Too well have many avoided the latter! Had they not, Government would have been warned ere this, and we might probably not have to record to-day the terrific mortality prevailing very extensively amongst cattle throughout the country, which is borne silently by stockowners generally, because they know how to save and make money by permitting the slaughter of diseased animals for human food. In the city of Edinburgh there are dairymen who never knew what it was to make money until pleuro-pneumonia appeared. They originally paid £10 or £15 for a rich milking Ayrshire, which they kept a twelvemonth or more. They now pay £25 or £30 for a fat cross-bred short-horn cow, which they calculate on selling diseased within three months from entering their dairy, and they find the latter system most profitable. I have met with much active opposition on the part of the dairymen in this city, in my efforts to adopt means for the prevention of disease, and to check the traffic in diseased animals. They have gone so far as to say, "We do not want disease out of the country. It is keeping everything high."

I have no hesitation in stating, that the prevailing cattle-plagues can be prevented—that the trade in diseased animals is opposed to our agricultural prosperity—that such trade is ruinous to the nation in perpetuating foreign diseases on British soil, and that it is a powerful cause in the production of human diseases. An effectual check on the fraud daily practiced of selling diseased for healthy meat would confer a lasting boon on the nation at large and on agriculture in particular. It is in the hope that such a check may be insisted on by the medical officers of health, and by the public generally, that I lay before you this imperfect sketch on the unwholesome qualities of diseased meat and milk.

The most convenient and satisfactory plan that has suggested itself to me for the purposes of this essay, is to classify the impurities known to us as pervading animal food. They are as follows:

Firstly—Cadaveric venom and animal poisons of undetermined nature, developed spontaneously in health or disease.

Secondly—Animal poisons, well known from their effects in creating specific contagious diseases. These effects are constant, if circumstances are favorable for their development, and unchangeable; some of these poisons affect animals alone, and others both man and animals.

Thirdly—Organic poisons the result of decomposition. These vary much according to the circumstances under which putrefaction is encouraged; and they differ from the specific poisons alluded to above.

Fourthly—Mineral and vegetable poisons absorbed into the systems of animals, and which contaminate the flesh and milk so as to render these unfit for human food.

Fifthly and lastly—Parasitic animals and vegetables inducing disease in man and animals.

I.—**CADAVERIC VENOM, INCLUDING ANIMAL POISONS OF UNDETERMINED NATURE, DEVELOPED SPONTANEOUSLY IN HEALTH OR DISEASE.**—I might probably be more correct in using the singular, poison, rather than the plural, under this head. The effects have been so similar when observed in the human subject, that I am inclined to regard as one and the same the deleterious principle developed in an infuriated and over-driven ox, a passionate woman, the cadaveric venom of the human subject, or that of human beings or animals suffering many hours in labor, or from parturient fever. The poison depends, apparently, on the effects of excitement, exhaustion, or pain on the nervous system generally. Kill an animal in health, and often in disease, and there is no danger if the anatomist inflicts on himself a dissection wound; but this is not the case with wounds received in dissecting the human body. The conditions of death are totally different in man and animals; the mental influences affecting the one, and the perfectly quiescent and unheeding state of the latter, at once suggest how very materially the tissues may be affected in death in man, and not in the slaughtered ox, or even in the dying horse or dog.

There is a very active cadaveric venom in an animal goaded and hunted until it becomes infuriated. I have frequently spoken to butchers on this subject, and have been informed how they have suffered from cuts received in dressing the carcasses of such animals. The change in the muscular system from death under these circumstances is very manifest; to use the butcher's expression, "the flesh is black," and no part of it has the bright normal flesh-tint seen in the ox killed in a quiet state. The form of disease in man induced by eating the flesh of an over-driven ox is violent dysentery, with considerable febrile excitement. The continental inspectors of meat, who are principally veterinary surgeons, declare that the over-driving may act as an exciting cause to malignant anthrax; but there is a very remarkable difference between the effects of eating the flesh of an over-driven ox and that of an animal dying from a form of anthrax.

I shall notice this further on, but must refer to my experience of traveling diseased animals by road or rail. Within the last few years splenic apoplexy—the *sang de rate* of French authors—has appeared in some of the best farms in England and Scotland. It is the result of plethora, and in the majority of instances is unconnected with the development of a specific poison, and is therefore non-contagious. It is remarkably favored by animals being inclosed or tied up in stalls, and one of the most ready plans that I have discovered to prevent a fatal apoplexy, when the premonitory signs are witnessed, is to move the animal about and travel it on the road; in no instance that cattle have been traveled after the appearance of the first symptoms of splenic apoplexy, have I known the apoplectic stroke to occur, though several hours' journey by rail had to be made before reaching a large town, where the cattle would be slaughtered. I am inclined to think that, as in anthrax and in the over-driven ox, we have the same ecchymoses, dark color of the flesh, and other post-mortem signs, veterinarians have confounded the two conditions.

The attention of veterinarians has been frequently turned to the severe eruptions of ecthyma which occur on their arms in attending cases of difficult labor. Similar observations have been made by human obstetricians in their practice.

In the *Edinburgh Veterinary Review* for July, 1858, there is a report of an attack by which I suffered, in common with other persons, that attended a parturient cow. In considering the nature of the poison, I then mentioned that it was not only in the local secretion, but in the animal's system, that it might be found, and for the following reasons:

1stly. The animals which, for a succession of many hours, are exhausted by the pains of labor and the interference of men, very frequently perish, notwithstanding that delivery is accomplished. The cause of death is often spoken of as metritis, but the animals *rapidly* sink in a manner which inflammation of the womb alone can scarcely account for.

2ndly. The flesh of such cows has been proved to be injurious, if partaken of by men. In support of this statement I shall simply transcribe Noiroi's report of a case which recently occurred in Prussia.*

"On the 17th of June, 1856, on the estate of Grüneberg, in the district of Prenzlau, was slaughtered a cow, otherwise healthy, but which a veterinary surgeon could not deliver of a calf. On the 18th of June a portion of the meat was fried for some workmen, and the day after another portion was cooked for the servants and master of the castle. Almost all the persons who partook of the food were taken ill in from four to twenty-four hours, manifesting symptoms of violent colicky pains, with vomiting and diarrhoea. A surgeon was called, and declared that it was cholera. He dined at the castle, ate of the cow, and the day after was seized with the same symptoms as his patients. On the evening of the 21st of June Dr. Rehfeldt, of Prenzlau, was summoned to attend the sick people at the castle; they were forty in number, all having eaten of the cow. They all showed the same symptoms—abundant diarrhoea, yellow and

* See *Annuaire de Littérature Médicale Etrangère pour 1857*. Par M. L. NOIROI. Paris, 1857. Also *Medicinische Zeitung*, No. 43, 1856.

watery stools, burning sensation in the stomach, intense suffering, insatiable thirst, vertigo, cephalalgia, excessive debility, almost amounting to paralysis, pale cold face, sunken eyes, hollow cheeks, small and accelerated pulse.

"Careful investigation brought to light that none but the individuals that had partaken of the meat were ill, and no analogous affection existed about the country. It was also seen that the intensity of the symptoms in each case was in proportion to the quantity of meat that had been eaten, and the individuals that were most ill had eaten of it two days running. In no case had the first symptoms occurred in less than from four to six hours after the unwholesome meat had been swallowed, and some individuals were only attacked after thirty or forty hours. The kind of poisoning in these cases was not the result of direct action on the digestive organs, inasmuch as nothing indicated an inflammatory state of these organs. Pressure on the abdomen gave rise to no pain, not even when the colicky symptoms were at their highest. All the circumstances indicated the introduction of a poison into the blood, and this poisonous principle existed in the flesh of the cow. Suspicion fell on the kitchen utensils, but it was found that the meat had been cooked in very different ways, and the meat itself must have been possessed of noxious properties. Five persons fell ill in a dairy where some of the raw meat had been sent. One of these, a woman, suffering from chronic disease, died.

"The generative organs of the cow could not be found. The chemical analysis of the flesh gave no result. It is probable that before the cow was slaughtered, gangrene of the uterus and a putrid puerperal fever had set in. Cooking had not destroyed its poisonous principle. This instance serves to show how dangerous it is to allow diseased animals to be sold to the butcher.

"On the 26th of June, with the exception of a woman, and another, a sickly old man, who died, all were restored to health; some, however, remained for a considerable time in an enfeebled state."

3rdly. Although the *most common form* of parturient fever in animals is known to occur in well-nourished cows that have had no difficulty in labor, still many cases, which have been set down as cases of metritis accompanied by putrid fever, and have been considered to arise from the absorption of putrefying elements from the genital organs, are similar to those conditions of the system in which there is danger of introduction of the arm in the vagina. The carcasses of the animals that have died from parturient fever, like those of animals dying from simple protracted labor, are poisonous, and induce enteric disorder if eaten.

There is a very significant general fear of parturient cows being slaughtered as human food, which I have heard expressed by butchers; but I have known many cases in which such animals have been permitted to pass, and indeed know that parturient cows are killed like other diseased animals for human food, in England as well as Scotland. It is important to notice, that no person could tell the carcass of a cow that had died from parturient fever from that of animals even in health sometimes, and it is essential to inspect the cow, whilst being dressed by the butcher, to examine the internal organs.

In the above-mentioned article I remark, that we cannot deny a certain degree of resemblance between the effects of the element which proves irritating to the hand or arm of the physician-acconcheur and the veterinary surgeon. No doubt there is great similarity in the condition of system attendant on protracted labor in the human female and our domestic quadrupeds. The similarity is probably quite as great as between some of the forms of fever attendant on parturi-

tion, and which are proved to be contagious. As regards the human being, it has also been demonstrated that there is some similarity between the cadaveric poison and the puerperal.

This class of poisons is not due to putrefaction, and I may conclude this section of this essay with another quotation from the paper on "Ecthyma Simplex." I then said, "It is my impression that putrefaction is entirely opposed to the development of the genuine cadaveric venom. We cannot understand a material difference between putrefactive change in the body of a man and the body of a horse, still we may dissect as many horses as we like, wounding ourselves each time, unless they be glandered, without suffering. Occasionally a dissection-wound procured in dividing the tissues of an ass or horse may suppurate, but we have observed that this results generally when peculiar circumstances, such as breathing foul atmosphere, &c., have seriously affected the system of the dissector. I would rather consider the mode of death as influenced by the physiological constitution of man and the lower animals in studying the cause of the development of a cadaveric venom in the human body. The intelligence and highly-developed nervous system of man completely excludes any chance of drawing an analogy between the conditions of death in man and the conditions of death in the lower animals. But apart from this, we find that the lower animals are very frequently—almost invariably for dissection—killed when enjoying constitutional vigor and health; but this is not the case in man; and we observe that the cadaveric venom is most severe from bodies of individuals that have died of constitutional diseases, and especially *from females that have fallen victims to puerperal fever*. Death in man is preceded by morbid changes; it follows an *exhausting process*, both *mental and constitutional*. It has yet to be discovered what influence this bears on the tissues so as to render them in some way different from the structures of animals that have died tranquilly, without previous nervous excitement or prostrating diseased action."

II. ANIMAL POISONS WELL KNOWN FROM THEIR EFFECTS IN INDUCING SPECIFIC CONTAGIOUS DISEASES.—At the head of this class we have the anthrax poison; and a few remarks on anthrax in animals may not be inappropriate. It is an enzootic disease peculiar to many districts in different countries of the world. Though thus springing in special localities, it may, and does, rage as an epizootic. The causes essential for its production are the plethoric state and heat. The warmer the climate, the more common and deadly is anthrax; and there are countries, such as our own, where the disease is seen, but is rarely attended with the development of the anthrax poison. Thus the braxy in sheep is the same disease as the *miltzbrand* of the Germans, and the *fièvre carbonculaire* of the French. It renders the flesh of these animals poisonous in warm countries; in our Scottish hills braxy hams have been eaten with impunity from time immemorial. Again, the black quarter, quarter evil, quarter garget, black leg of many parts of the United Kingdom, is the malignant anthrax of France, Germany, Italy, and many other warmer countries than ours. I state this from personal observation; and remember specially seeing a

young bullock carted into the Ferrara slaughter-house to be dressed and sold, condemned by Professor Maffei, and buried. The animal died from what we know here by the many names mentioned above. A jobber disinterred the carcass at night-time, and transferred the flesh in sacks, which he carried on his back a distance of a few hundred yards to a hiding-place. Next day this man was seized with gangrenous erysipelas of the back, and died in three days. This occurred in the hot summer of 1854.

It is the terrible virulence of the anthrax poison abroad that has led to the excellent organization of the slaughter-houses everywhere to be found, and to the appointment of qualified professional inspectors.

The cases of communication of malignant anthrax from animals to man are so numerous, that it is almost impossible to refer to the whole, or even to a large proportion of them, in this paper. There are, doubtless, numerous cases of this description that have occurred in this country, but they are not recorded, and have often been ill-observed, or not traced to their true cause. I have evidence of two well-marked instances in which serious disease and deaths in families have occurred in Aberdeenshire. The one case was reported to me by Dr. Keith, of Aberdeen, in 1856, and the other was mentioned to me by one of my students, Mr. John Morris, of Aberdeen. I have been informed by a most intelligent dairyman, that, several years ago, in a village in Dumfriesshire, a calf was slaughtered suffering from quarter-ill. It was eaten, and many persons suffered very severely—some died. These cases demonstrate that occasionally the anthrax poison is developed as far north as Scotland. It is doubtlessly more frequently produced in England; and on the occasion of my examining an aged cow that was slaughtered from an attack of black quarter—in London, in 1851, I was told that accidents had been repeatedly observed amongst butchers from dressing such carcasses. One man had lost his arm; another had to suffer amputation of the hand, and various other cases were alluded to. Dr. Headlam Greenhow, in a "Report on Murrain in Horned Cattle," published in 1857, says that carbuncular murrain is happily unknown in this country. This is not the fact, as occasional outbreaks of glossanthrax have occurred, and I have already stated that the great difference between carbuncular disease here, and in warmer climates, is the more constant development of an active anthrax poison in the latter. I think there cannot be a doubt as to the injurious results of eating the flesh of animals that have died of carbuncular fever, and contradictory opinions are based on observations of cases of unequal severity, occurring in different localities, and on the protecting influence of cooking, which destroys the potency of the virus.

Hubner* furnishes us with the symptoms preceding the death of two dogs that died from eating the flesh of a sheep affected with anthrax. The brain was affected, and symptoms of stupor appeared.

* *Zeitschrift für die gesammte Theirheilkunde*, 1842.

This author alludes to a shepherd who found a dead raven lying by the carcass of a sheep that had died of anthrax, and had been apparently poisoned by eating the flesh. Dr. Vix, in a note appended to Hübner's paper, says: "Three years ago (1839) I performed a post-mortem examination of an ox that had died of anthrax; my dog licked some of the blood that had flown on the ground, and in the course of twelve hours gangrenous pustules appeared in the mouth, the head became much swollen, and the animal was only saved by great care."

Dr. Schwab, of Munich,* recorded a case in which eight families suffered from eating the flesh of a calf that had died of carbuncular fever; three deaths occurred. Coste mentions in *Omodei's Annali Universali*, for 1844, that many persons were attacked with a nervous fever from eating parts of a cow that had succumbed to anthrax. Renault observed in the department of the Nievre, in 1846, a case in which a man suffered from malignant pustule, from being stung by a fly, whilst standing near the carcass of an animal that had died of anthrax, and another individual died of the disease after skinning an ox. Mangin, in 1847, refers to pigs and dogs dying from eating the flesh of cattle that have been lost from anthrax.

In the *Lyons Veterinary Journal* for 1850, a very singular case is recorded. A cow died of carbuncular fever, and its flesh was given to several women, who cooked and ate it. Two of these persons became affected several days after with pustules on their arms, and all showed signs of malignant anthrax. One woman died at the end of a week, and the others later.

Bearing on my remark, that heat is essential to the full development of the anthrax poison, is an interesting observation by Luscan.† At a meeting of the Société Vétérinaire de Lot et Garonne, this gentleman said that he seized the opportunity to draw attention to the fact that a high temperature increased the severity of anthrax. Thus he had seen dogs eating with impunity the flesh of oxen that had died of the disease in spring and in autumn, whereas others died after eating such flesh in the hot months of summer. In commenting on this, Lafosse wrote: "Here are facts which, added to the observations made by Bertin at the Guadeloupe, and to those already very numerous and reputed in the annals of science, demonstrate how much circumspection should be used before declaring in favor or against the innocuous nature of the flesh of animals dying from carbuncular fever." M. Pradel de Castres, in a report to the Prefect of Tarn, states that dogs and magpies died after having eaten of carcasses of cattle that had perished from this disease. In the same journal from which I have made these quotations, Caussé, veterinary surgeon at Castlenaudary, records two very severe cases of malignant pustule in man, from the individuals skinning an ox which had died of anthrax. Gerlach records a case in 1852 of a man dying from eating such flesh. The same author, in his observations on Prussian veterinary practice for 1854, says that about fifty persons had suffered during the year

* *Eininge fälle von Anthrax vergiftung*, 1844.

† *Journal des Vétérinaires du Midi*, 1852.

from the communication of anthrax by eating the flesh of diseased animals; six of them died. Eleven pigs and two dogs succumbed after devouring similar meat. A very remarkable instance is recorded in the *Gazette Medical de Lyon* for the same year. A cow died of carbuncular fever, and thirty-six persons ate her flesh. Twelve of these died, and the others recovered under careful treatment.

The cases I have here quoted are in addition to many you will find in Heusinger, Delafond, and in the works of other authors on malignant pustule. It is difficult to say if splenic apoplexy may not occasionally assume all the virulence and characters of anthrax. Thus, in the last number of the *Edinburgh Veterinary Review*, it will be found that Mr. Aris, of Wellingborough, Northamptonshire, states that pigs have died from eating the offal of cattle that have succumbed in his district from splenic apoplexy.

I shall conclude my remarks on the use of the flesh of animals that have died of anthrax by the following statement:

1stly, The malady described by Continental authors as anthrax or carbuncular fever, and which attacks man and all-warm-blooded animals, occurs in Great Britain.

2ndly, The anthrax poison induces malignant pustule in man, but with a very different degree of severity in different cases. A certain temperature is essential for the development of this poison, and from this circumstance it only occasionally manifests its virulent properties in this country. This poison may act with great violence on the un-abraded skin, or on being introduced into the blood by a wound, or into the stomach, especially if the flesh be raw.

3rdly, The disease in man, produced by eating the flesh, may sometimes be a diarrhœa, but more frequently a form of putrid fever, with malignant pustules on different parts of the body.

4thly, The post-mortem appearance of animals that have died of this disease are often localized in one quarter of the carcass, which may be removed, and the other quarters sold, much to the danger of human life. This indicates how necessary it is to have professional inspectors to slaughter-houses.

MILK OF COWS THAT HAVE DIED OF ANTHRAX.—Delafond says that whenever he has examined the milk of cows with carbuncular fever, it has possessed a nauseous odor, a dirty-white color, and decomposed rapidly. The slightest elevation of temperature led to curdling of the casein; allowing it to rest for six hours, red streaks appear, owing to the coloring matter of blood. One of the most remarkable facts concerning the unwholesome quality of the milk is recorded by Dr. Chisholm. It occurred in 1795, in the island of Barbadoes, in the family of a Mr. Commin, a planter, whose daughter drank the milk of a cow suffering from anthrax, and had a severe attack of the disease, which nearly terminated fatally. Gohier witnessed at Tramis the ill effects of such milk on a man who was attacked with severe diarrhœa, associated with great weakness. In 1809, five persons in one family suffered from diseased goat's milk. Calves take the disease by sucking their dams, (Desplas,) though it has been stated that

an infant has been known to drink the milk with impunity. This discrepancy is accounted for by the irregularity in the development and virulence of the poison. Metzger, Lappe, Heusinger, Spinola, and Virchow assert that the milk is often poisonous, and always attended with great danger if swallowed by human beings.

CONTAGIOUS TYPHOID FEVER POISON.—This malady, the Steppe disease or Rinderpest, the cattle plague, which develops spontaneously only in Southern Russia and Siberia, spreads alone by contagion westward. It is probably the most exclusively and actively contagious disease affecting any animal; but it appears certain that the flesh is not rendered poisonous, and that human beings can eat it with impunity. The most remarkable fact connected with the disease is, that dogs having devoured the flesh of oxen dying of this enteric fever, have communicated the disease to otherwise uninfected districts. Sheep, who are not subject to the malady, are capable of carrying the contagion, and the same may be said of horses, pigs, cats, &c. The milk, and the butter made from the milk, have produced alarming symptoms in human beings and dogs.

The produce of cattle dying from the cattle plague is condemned as unmarketable, from the great facility with which the malady is propagated. The virus is so indestructible, that there are well-attested facts to prove that opening the graves of animals slaughtered years before for the contagious fever, has led to a fearful outbreak of this terrible disease. It cannot reach our country, from the limitation to its spread received by the vigilance of the Prussian and Austrian Governments. British observers witnessed this disease during the Crimean war.

ERUPTIVE FEVER POISONS.—The only malady that I need refer to under this head is the epizootic aphtha, or vesicular murrain. It is also called *eczema epizootica*. Foot and mouth disease, *maul u. klauenseuche* by the Germans, *la cocotte* by the French.

I need not detain you by observations on the flesh, which is deteriorated from the circumstance that animals rarely die from epizootic aphtha, unless from the violence of an irritative fever, which occasionally assumes a typhous character, as in other instances of disease attended with the presence of a blood-poison, and from emaciation and hectic. The last that I dissected was that of a yearling in a state of extreme emaciation, and it died from inanition, owing to inability to eat from extreme soreness of the mouth. The animal had not been treated, and had proper care been used to feed it on gruel and other sloppy diet, it would certainly have lived.

The milk secreted by cows suffering from epizootic aphtha varies in quality and quantity at different stages of the disorder. During the early period of the eruption the secretion is unaffected, but when the vesicles are developed on the teats, they burst in the act of milking, and the virus falls in the milk. The pain attending milking at this stage prevents the removal of all the milk secreted, and from the teats ulcerating, and the ducts being obstructed, attacks of mammitis

are very common. Milk from cows suffering from this disease usually contains much pus.

There are abundant facts to demonstrate the injurious influence of such milk on human beings or animals drinking it. From my personal observations, I can state that calves die from acute laryngopharyngitis, and intestinal irritation, with marked emaciation. Pigs are readily affected, manifesting similar symptoms.

An exhaustive summary of the information published on the poisonous nature of milk in epizootic aphtha is furnished in an inaugural dissertation by Dr. Nauhiemer, (Giessen, 1860.) Sagar observed, during an attack of the disease in Moravia, (1764,) that the milk of cows induced the malady in man and animals. Similar observations were made in the vicinity of Lyons in 1811. Toggia's observations in Italy in 1818, and Mathieu's in France, led them to regard the product as innocuous. Jacob mentions a number of cases in which persons drinking largely of milk suffered severely when the malady was in the vicinity of Bâle in 1839. Jacob himself drank two large tumblers of warm milk from a cow that had sore teats and feet for five days. The following two days he took one tumbler each day, and this was immediately followed by headache, weakness in the limbs, and feverish symptoms. The mouth was hot, and there was itchiness of the skin in various parts. The symptoms lasted two days. He again drank of such milk for two days, and suffered from painful swelling of the mouth, vesicular eruption within it, as well as on the chest. The vesicles on the latter were hard and irritable. Those in the mouth broke, the epithelium fell off, and the parts healed. All symptoms disappeared in eight or ten days. Jacob saw similar attacks in a number of persons, but the severity depended on the intensity of the attack in the cows. Hertwig and two friends drank a quart of fresh milk from an affected cow. On the second day fever, tremors, headache, hot and dry mouth, and itchiness in the hands and fingers, supervened. By the fifth day the mouth became swollen, vesicles formed within it, and gave great inconvenience. Similar eruptions occurred on the hands and fingers, and symptoms disappeared on the tenth day. Lowak (1845) has recorded similar results from the use of such milk.

I shall not detain you by observations of Herberger, Hering, Falke, Krügelstein, Donné, Spinola, and others, and I may draw from my own and recorded experience the following conclusions:

1stly, That epizootic aphtha—a disease scarcely ever out of Britain since 1839—is due to the development of a specific poison capable of inducing the symptoms of the disease in man, and apparently in all warm-blooded animals.

2ndly, From the frequent deaths in calves and young pigs, I am led to the conclusion that the young are more liable to suffer severely, and it is only in early age that there is danger to life.

3rdly, The human subject is preserved from attacks of this contagious aphtha from the milk being taken some time after it is drawn, and in small quantities; occasionally, when it is boiled; and almost invariably, diluted. If the milk is swallowed pure and fresh, it com-

municates the disease, which is entirely similar in man and animals. The similarity extends even to the implication of the extremities, as shown by the eruption of the hands and fingers in man, as on the feet of animals.

I think it is desirable that attention be paid to this disorder by medical men. I am inclined to attribute the poisonous nature of the milk entirely to the admixture of the virus from the vesicles on the teats with the milk when drawn. The period of incubation of the disease is very short, and dairies might easily be kept clear, if it were insisted that newly bought animals should be kept separate for three or four days, that they should always be milked last, and the hands of the person who milks washed immediately after; chlorine water should be applied to the teats, and especially to the vesicles when opened. There is no doubt a remarkable scarcity of general facts indicating the dangerous nature of this milk, but perhaps this may be due to the fact that infants suffer, and any ill effects may be attributed to ordinary eruptions so commonly seen during the period of suckling.

VALORIOUS FEVER POISON.—No fact is better known than that man is attacked with symptoms of cow-pox from contact with the poison of this disease, but there is no danger to be apprehended—rather the reverse.

The flesh of sheep that have died of small-pox, though seriously deteriorated, is not poisonous. Its sale is condemned by Delafond, as any such trade favors the extension of disease.

(To be concluded in next No.)

EDITORIAL AND MISCELLANEOUS.

— We quote from our weekly contemporary, the *American Medical Times*, of August 9, the following letter from Dr. Sayre:

SIR—I have for many years past been in the habit of using picked oakum, in all cases of suppurating wounds, particularly in connection with opened joints, where the suppuration is excessive. The great number of gunshot wounds now in Bellevue Hospital, where I use it entirely to the exclusion of lint, has furnished an opportunity for a number of army surgeons to examine its advantages, and they have requested me to make the subject more generally known to the profession through the medium of your valuable medical journal.

One of the objects of lint applied to a suppurating wound is to absorb the discharge; now as most of the lint is composed either entirely or in great part of cotton, it acts more like a tampon, or a retainer of the secretions, than as an absorber.

If you will take a bale of cotton and immerse it in the river for one month, or even longer, and then remove it, you will find on opening it that the cotton in the centre of the bale is perfectly dry, thus proving that it cannot be soaked through any great thickness, or that it will not absorb moisture. So, when placed over a suppurating wound and left for some hours, it will be found perfectly dry except at the point of contact: acting, in fact, like a bung in a barrel or a cork in a bottle—to *prevent* the escape of the pus—which necessarily burrows in different directions, thus forming extensive abscesses, and adding greatly to the danger of the patient; and when removed, the pus will gush out in large quantities. Now, if you place picked oakum over these same wounds, you will find after the same number of hours, that the oakum is perfectly saturated with pus, and the wound itself almost perfectly dry and clean—the oakum acting like a siphon, and discharging the contents of the abscess by capillary attraction.

It is necessary to place under the wound a piece of India-rubber cloth, or oiled muslin, for the sake of cleanliness; and in case of much inflammation, by simply wetting the oakum in cold water, and wrapping the oiled muslin around the limb, or wounded part, so as to exclude the air, you have at once the neatest and most comfortable poultice that can be applied to it. In gunshot wounds, which go through and through a limb, particularly if made with the "Minie ball," the whirl or screw of the ball entangles in its thread the muscular fibres and cellular tissue, and separates them from their attachments for a long distance from the real track of the ball itself.

As the muscle and tegumentary tissues are more freely supplied with blood-vessels than the fat and cellular tissue, the consequence is that they begin to granulate much more readily than those other tissues, and will thus often close up the wound, and prevent the free escape of pus, before those parts have perfectly healed, and thus lead to the formation of extensive secondary abscesses. I, therefore, in all cases where no blood-vessels prevent it, pass an eyed probe through the wound and draw through it a few fibres of the oakum or tarred rope, which keeps it perfectly free, and the tar is a very excellent antiseptic, and removes all unpleasant odor.

A few fresh fibres are twisted on the end of the seton at every dressing and drawn into the wound, and the soiled piece cut off and removed with the dressings.

Another great advantage which the oakum possesses over lint, which in these times of heavy taxation is not to be overlooked, is its

cheapness. Lint at the present time costs from \$1.25 to \$1.35 per pound, whereas the finest picked oakum can be obtained at the "Empire Oakum Works," No. 149 West 39th Street, for ten cents per pound. And if it were universally adopted in the army it would save many thousands of dollars to the Government, and I confidently believe the life of many a soldier. And no surgeon who has once used it will ever resort to lint again, particularly if the lint is made of cotton.

— A most singular case, perhaps the only one on record, of death caused by caterpillars occurred recently in the commune of Dardilly, near Lyons. A little boy, not more than eight years old, had gone into a neighboring wood, in quest of birds' nests. Perceiving one on the top of a tree, he climbed up, but in so doing shook down an immense number of caterpillars, many of which fell on his shirt, his only upper garment, and soon covered his breast, which was bare, and penetrated to his arms and shoulders. For a few minutes the child took no notice of this, but he soon felt such an itching sensation that he was compelled to get down again and run home for assistance. Upon examination, his skin appeared covered with large red spots, which were soon followed by a general swelling, then by fever, somnolency, and delirium; and, notwithstanding all medical care, death ensued in the course of a few hours. The kind of caterpillar which caused this disaster was the *Bombyx processionea* of Réaumer, a very venomous species. Botanists know that if a nest of these insects be touched, or only stirred up with a stick, the person so doing, and remaining for some time near the spot, within reach of the emanations arising therefrom, will be attacked with a papulous eruption of a more or less confluent nature, which will last several days, and be attended with violent itching. Dr. Calmell, Physician to the Hospital of Charenton, had preserved a nest of these caterpillars in a large glass phial, which was not opened for upwards of ten years. At length, the phial being accidentally wanted, it was opened in the presence of several persons, who all caught the eruption. This strange property has even suggested to several members of the Faculty the idea of using these caterpillars in cases in which it is required to subject the skin to a strong and permanent irritation. We may remark, in conclusion, that the number of caterpillars which infest the trees this year all over France is quite unprecedented—a circumstance which has called the attention of the authorities and of various learned societies to the question of protecting insectivorous birds, the only really efficacious enemies of the caterpillar.

— *The N. Y. Ophthalmic Hospital* is removed from 63 Third Avenue to 387 Fourth Avenue, corner of Twenty-eighth Street, the former residence of Peter Cooper, Esq. The Directors of the Institution have taken a lease of the building and adjoining lot for ten years, have thoroughly repaired the old mansion, and are now prepared to admit patients who wish to reside in the Hospital at \$3.50 per week. About 10,000 patients have been prescribed for since its organization. It is open every Tuesday, Thursday and Saturday, from 1 to 3 p. m., for the reception of patients with diseases of the eye. Clinical instruction given each day.

The Medical Staff are Mark Stephenson, M.D., J. P. Garrish, M.D., and Marcus P. Stephenson, M.D., Attending Surgeons; Valentine Mott, M.D., LL.D., Consulting Surgeon.

A Course of Lectures on Ophthalmic Surgery will be delivered by Dr. Mark Stephenson during the coming fall and winter.

Between 3 and 400 medical pupils and practitioners have attended the N. Y. Ophthalmic School during the last ten years, and received the Diploma of the Institution. Further particulars can be obtained at Dr. Stephenson's office, 383 Broome Street, N. Y.

— We understand that Prof. Horace Green is engaged, and has been during his leisure hours, for a number of years, in preparing a somewhat elaborate work on the *Nature and Treatment of Diseases of the Lungs and of their Appendages*. Having given, as many of our readers are doubtless aware, more than twenty years of his professional life almost exclusively to the study and treatment of this class of diseases, (over ten thousand cases of this nature we have learned having in that time come under his observation,) Dr. Green should possess a large and valuable amount of information on this important class of affections. A most important contribution to current knowledge may therefore be expected to emanate from his ready pen, and we would advise all desirous of adding a book on this subject to their libraries, to wait for the publication of the work here announced.

— *Russian Vapor Baths*.—An adjuvant of great importance, and powerful curative effect in many diseases of long standing, has just been added to the resources at the command of the physicians of our city. We may refer to this establishment again at greater length, in the mean time we commend it warmly to the patronage it well deserves. Particulars may be obtained from Dr. Edward Gutmann, No. 373 Fourth Street.